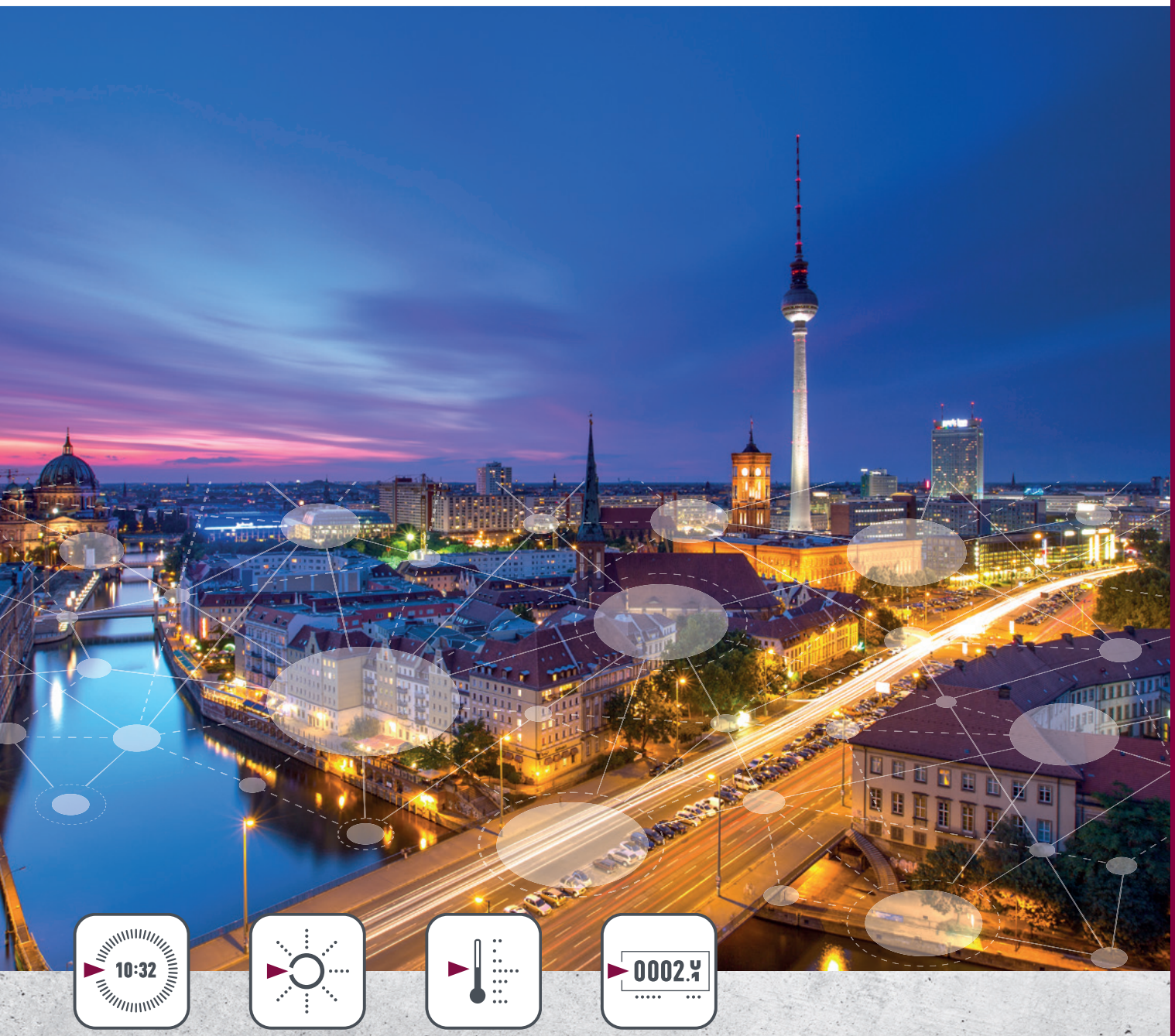
GRÄSSLIN



CATALOGUE

Intelligent products for
ambitions eletricians

GRÄSSLIN PRODUCTS

Time switch technology
Light control
Temperature control
Meters

Outstanding products

Grässlin products stand for reliable quality, supreme precision and maximum ease of use. The product portfolio contains analogue and digital timers supplied with versatile programs and extensive functions as standard as well as products that combine normal timer functions with sensors. These include, among others, motion and presence detectors as well as twilight switches. The portfolio is rounded off with time switch modules, meters and products for controlling heating systems.

Compelling benefits

The combination of mature technology and simple operation allows even complex applications to be easily controlled while achieving maximum energy efficiency. Individual programming options and numerous useful functions ensure that even the most individual requirements can be satisfied with ease.


GRÄSSLIN
low battery
Info
famoso
GRÄSSLIN
GRÄSSLIN
GRÄSSLIN
feeling
GRÄSSLIN
fumus 200
GRÄSSLIN
ECOsave
BOOST TIME
PUSH ON / OFF
BOOST

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Meters:

Accessories

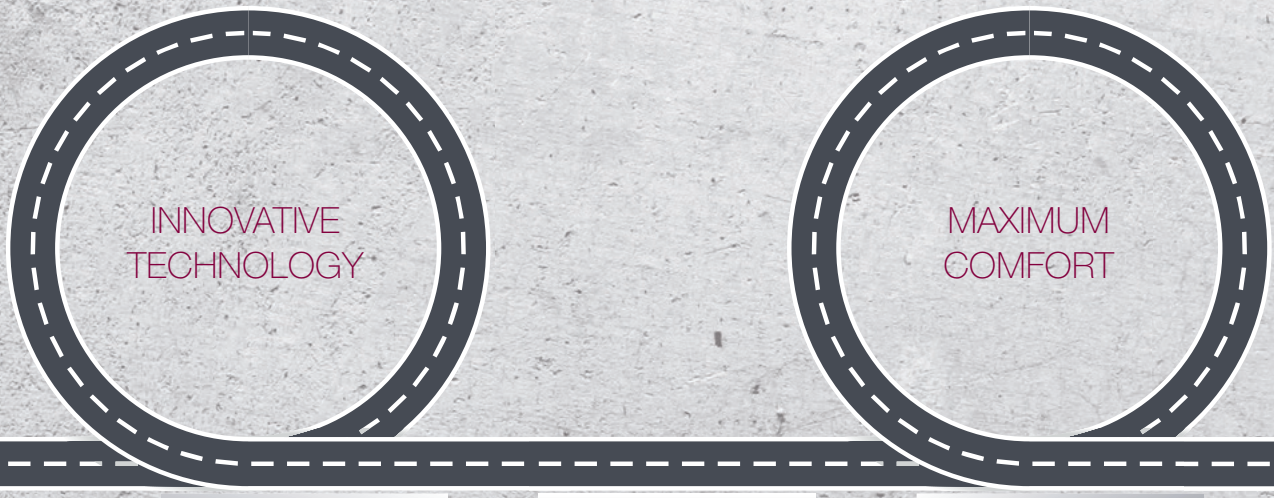
Innovations from the land of Black Forest clocks
The success story of Dieter Grässlin

Many great success stories started in a garage. For Grässlin, it was a laundry room in St. Georgen in the black forest. This was where, in 1956, Dieter Grässlin started to assemble pieces of clockwork. He presented his first hour meter the following year. Timers, a combination of clocks and time switch technology, followed in 1964 – a true innovation that made the name Grässlin famous. After ten years the workforce, which had numbered three employees during the early phase, had increased to seventy. Grässlin expanded, set up branches in the US and France to support his growing international business, and added light and temperature control to his product program. Grässlin remains a recognised specialist in this technology to this day, and not just on the German market.

„EVERY DAY
A NEW IDEA“
Dieter Grässlin

Our recipe for success:
Innovative, reliable and powerful technology with maximum ease-of-use for installers as well as users

Dieter Grässlin's aims continued to determine product development even after his death in 1976. Grässlin received quality ISO certification in 1994. At the turn of the millennium, the company began applying a menu-drive operating philosophy for digital devices; and it started using radio technology for room thermostats in 2004. In 2010 Grässlin started to incorporate LAN technology into its products, and in 2013 it added presence detectors to its portfolio as a new product line. Grässlin emerged as a pioneer of modern communication technology when it introduced the talento smart line of digital DIN-rail timers. Programs are written on a PC, tablet or smartphone and then transmitted by app wirelessly to the clocks via Bluetooth. In addition, a LAN module makes the clocks network-enabled. All innovations are designed to simplify the work of specialists for heating systems, increase convenience for customers, and still meet requirements for energy efficiency and environmental protection.



Utilising the specialist's know-how:
Customer-specific components secure energy efficiency, environmental protection and sustainability in the OEM business.

As a pioneer of time switch technology and temperature control, Grässlin has long-standing partnerships with renowned manufacturers in the HVAC and electrical industries. The development team in St. Georgen assists customers with everything from consultation and design, to storage, just-in-time deliveries and technical support. It helps them meet requirements for energy efficiency in products, for environmental protection and for sustainability. Grässlin started in precision engineering, so reliability and precision to the smallest detail are firm components of the company's DNA. The fastest way to success is to choose an existing product that is already certified. Alternatively, the Grässlin specialists can develop an individual customer-specific products to suit your requirements, thereby functioning as your external development department.

PRECISION
IN
EVERY DETAIL

From a supplier of products to a supplier of systems – securing the future with a new strategy

Under the leadership of an inventive engineer, the small family business has become a global player. After it was acquired by the Intermatic Group, a leading manufacturer of energy control systems with headquarters in Illinois, USA, Grässlin became the international centre of excellence for product development. The specialists in St. Georgen are working on linking the existing product lines to each other and expanding them into a system with innovative communication networks involving Bluetooth and LAN technologies. In the process, the company is aiming to create user-friendly smart-home solutions for small and medium-size applications. Its intelligent products are suitable both for new builds and for retrofitting; they are quick and easy for specialists for heating systems to install, while also offering a huge increase in convenience and security for end users.

	Item number	Item designation	Voltage	Description	Page number
Time switch technology, DIN rail time switches, Digital DIN rail time switches					
	43.02.0001.1	talento smart B15	AC 110-230 V ± 10 % 50-60 Hz	1 channel, 100 memory slots, weekly and annual program	20
	43.02.0002.1	talento smart B25	AC 110-230 V ± 10 % 50-60 Hz	2 channels, 100 memory slots, weekly and annual program	20
	43.03.0001.1	talento smart C15	AC 110-230 V ± 10 % 50-60 Hz	1 channel, 500 memory slots, weekly and annual program, astro function	22
	43.03.0002.1	talento smart C25	AC 110-230 V ± 10 % 50-60 Hz	2 channels, 500 memory slots, weekly and annual program, astro function	22
	43.03.0003.1	talento smart C25	AC/DC 12/24 V ± 10 % 50-60 Hz	2 channels, 12 V, 500 memory slots, weekly and annual program, astro function	22
	43.04.0001.1	talento smart S25	AC 110-230 V ± 10 % 50-60 Hz	2 channels, 800 memory slots, system variant, weekly and annual program, astro function	24
	43.04.0004.1	talento smart CE2	AC 110-230 V ± 10 % 50-60 Hz	2 channels, channel extension	26
	43.04.0006.1	talento smart LAN	AC 230 V ± 10 % 50-60 Hz	Interface / gateway for remote access to the talento smart S25	28
	43.02.0005.1	talento smart B10 mini	AC 110-230 V ± 10 % 50-60 Hz	1 channel, 100 memory slots, without display	30
Time switch technology, DIN rail time switches, Analogue DIN rail time switches					
	01.06.0004.1	talento 111 mini	AC 220-240 V ± 10 % 50 Hz	1 channel, number of modules 1, daily program, synchronous	34
	02.03.0003.1	talento 211 mini	AC 230 V ± 10 % 50-60 Hz	1 channel, number of modules 1, daily program, quartz	34
	01.28.0001.1	talento 111	AC 220-240 V ± 10 % 50 Hz	1 channel, number of modules 3, daily program, synchronous	36
	01.28.0003.1	talento 121	AC 220-240 V ± 10 % 50 Hz	1 channel, number of modules 3, hourly program, synchronous	36
	02.28.0001.1	talento 211	AC 230 V ± 10% 50-60 Hz	1 channel, number of modules 3, daily program, quartz	38
	02.28.0004.1	talento 271	AC 230 V ± 10% 50-60 Hz	1 channel, number of modules 3, weekly program, quartz	38
Time switch technology, Universal time switches, Digital universal time switches					
	03.62.0002.1	tactic 372.1 plus	AC 230 V ± 10 % 50-60 Hz	2 channels, weekly program, 20 memory slots	42
	03.87.0001.1	tactic 571.1 plus	AC 230 V ± 10 % 50-60 Hz	1 channel, weekly program, 50 memory slots	44
	03.87.0003.1	tactic 572.1 plus	AC 230 V ± 10 % 50-60 Hz	2 channels, weekly program, 50 memory slots	44

	Item number	Item designation	Voltage	Description	Page number
Time switch technology, Universal time switches, Digital universal time switches					
	43.87.0002.1	tactic smart C15.1*	AC 110-230 V ± 10 % 50-60 Hz	1 channel, 500 memory slots, weekly and annual program, astro function	46
	43.87.0004.1	tactic smart C25.1*	AC 110-230 V ± 10 % 50-60 Hz	2 channels, 500 memory slots, weekly and annual program, astro function	46
Time switch technology, Universal time switches, Analogue universal time switches					
	01.80.0001.1	tactic 111.1	AC 220-240 V ± 10 % 50 Hz	1 channel, daily program, synchronous	50
	01.80.0002.1	tactic 171.1	AC 220-240 V ± 10 % 50 Hz	1 channel, weekly program, synchronous	50
	02.80.0001.1	tactic 211.1	AC 230 V ± 10 % 50-60 Hz	1 channel, daily program, quartz	50
	02.80.0002.1	tactic 271.1	AC 230 V ± 10 % 50-60 Hz	1 channel, weekly program, quartz	50
Time switch technology, Time switch modules, Digital time switch modules					
	03.58.0017.1	FMD 120	AC 230 V ± 10 % 50-60 Hz	1 channel, daily program, weekly program	54
	43.60.0001.1	FMD smart C15*	AC 110-230 V ± 10 % 50-60 Hz	1 channel, 500 memory slots, weekly and annual program, astro function	56
Time switch technology, Time switch modules, Analogue time switch modules					
	01.76.0088.1	FM/1 STuZH	AC 220-240 V ± 10 % 50 Hz	1 channel, daily program, synchronous	58
	02.76.0075.1	FM/1 QRTuZH	AC 230 V ± 10 % 50-60 Hz	1 channel, daily program, quartz	58
	02.76.0076.1	FM/1 QRWuZH	AC 230 V ± 10 % 50-60 Hz	1 channel, weekly program, quartz	58
Time switch technology, Plug-in time switches, Analogue/Digital plug-in time switchess					
	16.25.0008.1	topica 200 S	AC 220-240 V ± 10 % 50 Hz	Type A, daily program, without pointer	62
	16.26.0008.1	topica 400 S	AC 220-240 V ± 10 % 50 Hz	Type A, daily program, analogue pointer	62
	16.40.0001.1	topica 450 S	AC 220-240 V ± 10 % 50 Hz	Type A, weekly program, analogue pointer	62
	16.27.0001.1	topica 410 S	AC 220-240 V ± 10 % 50 Hz	Type A, daily program, analogue pointer, IP54	64
	16.15.0001.1	topica 600	AC 230 V ± 10 % 50-60 Hz	Type A, weekly program, digital	64

*probably available from 3rd quarter 2020

	Item number	Item designation	Voltage	Description	Page number
Light control, Motion and presence detectors, Motion detectors					
	18.06.0002.1	talis MW 180-12-1	AC 230 V ± 10 % 50-60 Hz	1 channel, 12 m range, 180 ° angle of detection, on-wall mounting, 2-wire	70
	18.06.0003.1	talis MW 240-16-1	AC 230 V ± 10 % 50-60 Hz	1 channel, 16 m range, 240 ° angle of detection, on-wall mounting, 2-wire	72
	18.06.0009.1	talis MFM 360-6-1	AC 230 V ± 10 % 50-60 Hz	1 channel, 6 m range, 360 ° angle of detection, mounting on suspended ceilings, 2-wire	74
	18.06.0011.1	talis MWF2 200-9-1	AC 230 V ± 10 % 50-60 Hz	1 channel, 9 m range, 200 ° angle of detection, flush mounting, 2-wire	76
	18.06.0012.1	talis MWF3 200-9-1	AC 230 V ± 10 % 50-60 Hz	1 channel, 9 m range, 200 ° angle of detection, flush mounting, 3-wire	76
Light control, Motion and presence detectors, Presence detectors					
	18.06.0015.1	talis II PS 360-8-1	AC 230 V ± 10 % 50-60 Hz	1 channel, 8 m range, 360 ° angle of detection, PIR, on-wall mounting, 2-wire	80
	18.06.0016.1	talis II P 360-8-1	AC 230 V ± 10 % 50-60 Hz	1 channel, 8 m range, 360 ° angle of detection, PIR, mounting on suspended ceilings, 2-wire	82
	18.06.0017.1	talis II P 360-8-2	AC 230 V ± 10 % 50-60 Hz	2 channels, 8 m range, 360 ° angle of detection, PIR, mounting on suspended ceilings, 2-wire	82
	18.06.0018.1	talis II P 360-20-1	AC 230 V ± 10 % 50-60 Hz	1 channel, 20 m range, 360 ° angle of detection, PIR, mounting on suspended ceilings, 2-wire	82
	18.06.0019.1	talis II P 360-20-2	AC 230 V ± 10 % 50-60 Hz	2 channels, 20 m range, 360 ° angle of detection, PIR, mounting on suspended ceilings, 2-wire	82
	18.06.0020.1	talis II PHB 360-20-1i	AC 230 V ± 10 % 50-60 Hz	1 channel, 20 m range, 12 m installation height, 360 ° angle of detection, PIR, flush mounting, remote control enabled, 2-wire	88
	18.06.0021.1	talis II PC 40-5-1i	AC 230 V ± 10 % 50-60 Hz	1 channel, 5 x 40 m range, 360 ° angle of detection, corridor, PIR, flush mounting, remote control enabled, 2-wire	90
	18.06.0024.1	talis II P 360-24-1i	AC 230 V ± 10 % 50-60 Hz	1 channel, 24 m range, 360 ° angle of detection, PIR, flush mounting, remote control enabled, 2-wire	86
	18.06.0022.1	talis II P 360-10-1HF	AC 230 V ± 10 % 50-60 Hz	1 channel, 10 m range, 360 ° angle of detection, high frequency, mounting on suspended ceilings, 2-wire	92
	18.06.0023.1	talis II P 360-10-2HF	AC 230 V ± 10 % 50-60 Hz	2 channels, 10 m range, 360 ° angle of detection, high frequency, mounting on suspended ceilings, 2-wire	92

	Item number	Item designation	Voltage	Description	Page number
Light control, Twilight switches					
	18.18.0013.1	turnus 501 A	AC 110-230 V ± 10 % 50-60 Hz	1 channel, 2 - 500 lux, surface mounting	96
	18.18.0014.1	turnus 501 E	AC 110-230 V ± 10 % 50-60 Hz	1 channel, 2 - 500 lux, flush mounting	96
	18.17.0001.1	turnus 200	AC 220-240 V 50-60 Hz	1 channel, 2 - 2,000 lux, integrated	98
Light control, Staircase lighting time switches					
	18.13.0009.1	trealux 210	AC 230 V ± 10 % 50 Hz	2,300 W, 1 x resettable	100
	18.13.0016.1	trealux 510	AC 230 V ± 10 % 50 Hz	3,600 W, 3 x resettable, 1 hour (service function)	100
Temperature control, Multi-tariff time switches					
	04.33.0020.1	ECOsave	AC 230 V ± 10 % 50 Hz	Daily program, boost	106
Temperature control, Countdown time switches					
	04.08.0001.1	thermio eco B2B	AC 230 V ± 10 % 50 Hz	Countdown time switch, 2 hours	108
	04.08.0002.1	thermio eco B4B	AC 230 V ± 10 % 50 Hz	Countdown time switch, 4 hours	108
Temperature control, Analogue heating time switches					
	04.07.0008.1	thermio eco B1	AC 220-240 V ± 10 % 50 Hz	Analogue heating time switch, 1 channel	112
	04.07.0009.1	thermio eco B2	AC 220-240 V ± 10 % 50 Hz	Analogue heating time switch, 2 channels	112
Temperature control, Immersion heater time switches					
	04.33.0023.1	thermio eco BI1S	AC 230 V ± 10 % 50-60 Hz	Analogue immersion heater time switch, daily program	114
	04.33.0024.1	thermio eco BI7S	AC 230 V ± 10 % 50-60 Hz	Analogue immersion heater time switch weekly program	114
	04.33.0025.1	thermio eco CI7	AC 230 V ± 10 % 50-60 Hz	Digital immersion heater time switch, weekly program	116

	Item number	Item designation	Voltage	Description	Page number
Temperature control, Analogue universal time switches					
	04.36.0009.1	thermio eco BG1S	AC 230 V ± 10 % 50-60 Hz	Analogue universal time switch, daily program	120
	04.36.0010.1	thermio eco BG7S	AC 230 V ± 10 % 50-60 Hz	Analogue universal time switch, weekly program	120
	04.36.0011.1	thermio eco BG1Q	DC 24-36 V 45-60 Hz	Analogue universal time switch, quartz, daily program	120
Temperature control, Digital universal time switches					
	04.36.0012.1	thermio eco CG7	AC 230 V ± 10 % 50-60 Hz	Digital universal time switch, weekly program	122
Temperature control, Room thermostats					
	04.46.0020.1	thermio essential B	AC 24 V to 230 V 50-60 Hz	Analogue room thermostat	126
	04.46.0021.1	thermio essential C	DC 3 V	Digital room thermostat	128
	04.46.0022.1	thermio essential H rf	DC 3 V	Digital radio room thermostat transmitter + frame	
	04.46.0023.1	thermio essential smart	DC 3 V	Digital room thermostat with integrated Bluetooth functionality	134
	04.46.0024.1	thermio essential H Srf	DC 3 V, AC 230 V ± 10 % 50-60 Hz	Digital radio room thermostat transmitter + receiver for heating systems	130
	04.46.0025.1	thermio essential H Brf	DC 3 V, AC 230 V ± 10 % 50-60 Hz	Digital radio room thermostat transmitter + receiver for gas boiler	132
Temperature control, Room thermostat receivers					
	04.52.0011.1	RecFM/2 rf	AC 230 V ± 10 % 50-60 Hz	Digital radio room thermostat receiver for installation in a gas boiler	136
	04.52.0013.1	RecUno/2 rf	AC 230 V ± 10 % 50-60 Hz	Digital radio room thermostat receiver + wall mounting housing	136

	Item number	Item designation	Voltage	Description	Page number
Temperature control, Programmable room thermostats					
	04.10.0001.1	feeling D101	DC 3 V	Digital programmable room thermostat	140
	04.11.0001.1	feeling D101 rf - transmitter	DC 3 V	Digital programmable radio room thermostat transmitter	
	04.11.0004.1	feeling D101 rf set	DC 3 V	Digital programmable room thermostat, 1 channel, 2 - 2,000 lux, integrated, transmitter + receiver	142
Temperature control, Programmable room thermostat receivers					
	04.52.0001.1	RecUNo/2 rf	AC 230 V ± 10 % 50-60 Hz	Digital radio room thermostat receiver for heating systems	144
	04.52.0012.1	RecFM/1 rf	AC 230 V ± 10 % 50-60 Hz	Digital radio room thermostat receiver for installation in a gas boiler	144
Temperature control, GSM UMTS remote switch					
	44.01.0001.1	telltask 1C1	DC 5.3-12V	Internal temperature sensor, 1 switch output	146
Meters, Energy meters, Digital energy meters					
	05.25.0002.1	taxxo E 45-1-MID	AC 230 V ± 20 % 50 Hz ± 10 %	Number of phases 1, number of modules 1	154
	05.25.0003.1	taxxo ER 80-1	AC 230 V ± 20 % 50-60 Hz	AC 230 V ± 20 % 50-60 Hz	152
	05.25.0004.1	taxxo E 100-3-MID	AC 230 V ± 20 % 50 Hz ± 10 %	Number of phases 3, number of modules 7	156
Meters, Energy meters, Analogue energy meters					
	05.25.0001.1	taxxo M 45-1	AC 230 V ± 20 % 50-60 Hz	Number of phases 1, number of modules 1	158
Meters, Hour meters, Surface mounting hour meters					
	05.15.1001.1	taxxo 100	AC 220-240 V ± 10 % 50 Hz		162

	Item number	Item designation	Voltage	Description	Page number
Meters, Hour meters, Flush mounting hour meters					
	05.15.1016.1	taxxo 112	AC 18-26 V ± 10 % 50 Hz		164
	05.15.1031.1	taxxo 112	AC 110-127 V ± 10 % 60 Hz		164
	05.15.1038.1	taxxo 112	AC 220-240 V ± 10 % 50 Hz		164
	05.20.0006.1	taxxo 612	AC 220-240 V ± 10 % 50 Hz		166
	05.20.0016.1	taxxo 612	AC 18-26 V ± 10 % 50 Hz		166
	05.20.0033.1	taxxo 612	AC 330-380 V ± 10 % 50 Hz		166
	05.20.0004.1	taxxo 712	AC 220-240 V ± 10 % 50 Hz		168
	05.20.0008.1	taxxo 712	AC 110-127 V ± 10 % 60 Hz		168
	05.20.0018.1	taxxo 712	AC 18-26 V ± 10 % 50 Hz		168
	05.20.0029.1	taxxo 712	AC 110-120 V ± 10 % 50 Hz		168
Meters, Hour meters, Distributor installation hour meters					
	05.21.0001.1	taxxo 403	AC 220-240 V ± 10 % 50 Hz		170
	05.21.0002.1	taxxo 403	AC 110-120 V ± 10 % 50 Hz		170
	05.21.0003.1	taxxo 403	AC 36-48 V ± 10 % 50 Hz	These product variants are only produced by order	170
	05.21.0004.1	taxxo 403	AC 18-26 V ± 10 % 50 Hz	These product variants are only produced by order	170
	05.21.0006.1	taxxo 403	AC 330-380 V ± 10 % 50 Hz	These product variants are only produced by order	170
	05.21.0009.1	taxxo 403	AC 110-127 V ± 10 % 60 Hz	These product variants are only produced by order	170

GRÄSSLIN

TIME SWITCH TECHNOLOGY
Intelligent timers

TIME SWITCH TECHNOLOGY

▶ DIN rail time switches:

▶ Universal time switches:

▶ Time switch modules:

▶ Plug-in time switches:

DIGITAL DIN RAIL TIME SWITCHES

▶ talento smart – overview

	talento smart B15	talento smart B25	talento smart C15
			
Item no.	43.02.0001.1	43.02.0002.1	43.03.0001.1
EAN code	4010940044718	4010940044725	4010940044749
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz	AC 110-230 V ± 10 % 50-60 Hz	AC 110-230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)
Channels	1	2	1
Memory slots	100	100	500
Program / functions	10 date-independent programs (Weekly program) 1 date-dependent program (Holiday, annual program) Free weekday block formation ON OFF	10 date-independent programs (Weekly program) 2 date-dependent programs (Holiday, annual program) Free weekday block formation ON OFF	50 date-independent programs (Weekly program) 50 date-dependent programs (Holiday, annual program) Free weekday block formation ON OFF Pulse Cycle Astro function Random ON Random OFF
Shortest switching time	1 minute	1 minute	ON/OFF 1 minute Pulse 1 second Cycle 1 second
Programming on PC, mobile devices	√	√	√
Interface	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
Page	**20**	**20**	**22**

talento smart C25	talento smart S25	talento smart CE2	talento smart B10 mini
			
43.03.0002.1 / 43.03.0003.1	43.04.0001.1	43.04.0004.1	43.02.0005.1
4010940044756 / 4010940044787	4010940044763	4010940045463	4010940045890
AC 110-230 V ± 10 % 50-60 Hz AC/DC 12/24 V ± 10 % 50-60 Hz	AC 110-230 V ± 10 % 50-60 Hz	AC 110-230 V ± 10 % 50-60 Hz	AC 110-230 V ± 10 % 50-60 Hz
Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing) Changeover contact, potential-free and normally open, opening width < 3 mm, phase-independent	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)	Changeover contact, potential-free, opening width < 3 mm, phase-independent
2	2	2	1
500	800		
50 date-independent programs (Weekly program) 50 date-dependent programs (Holiday, annual program) Free weekday block formation ON OFF Pulse Cycle Astro function Random ON Random OFF	80 date-independent programs (Weekly program) 80 date-dependent programs (Holiday, annual program) Free weekday block formation ON OFF Pulse Cycle Astro function Random ON Random OFF	Free weekday block formation* ON* OFF* Pulse* Cycle* Astro function* Random ON* Random OFF* * only in combination with talento smart S25	10 date-independent programs (Weekly program) 1 date-dependent program (Holiday, annual program) Free weekday block formation ON OFF
ON/OFF 1 minute Pulse 1 second Cycle 1 second	ON/OFF 1 minute Pulse 1 second Cycle 1 second		1 minute
√	√	√	√
Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
22	**24**	**26**	**30**

DIGITAL DIN RAIL TIME SWITCHES

▶ talento smart

talento smart B15

Item no. 43.02.0001.1

talento smart B25

Item no. 43.02.0002.1

Product description

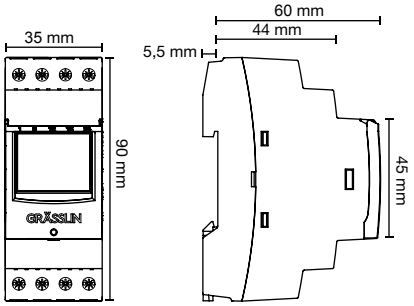
talento smart B15 / talento smart B25 is a digital 1-channel/2-channel DIN rail time switch with 100 memory slots for creating a date-dependent programme and ten date-independent programmes (ON/OFF). Weekdays can be combined freely. Summer/winter time adjustment can be automatic or date-specific and can be deactivated. A non-volatile memory (EEPROM) is used to store programmes in the event of a power outage. The clock is sealable and can be protected against unwanted access via a PIN. talento smart B15 / talento smart B25 can be programmed easily via mobile devices and the corresponding Apps (Android and iOS) or with the corresponding PC software, and programs can be transferred to the devices contact-free via Bluetooth.

Areas of application

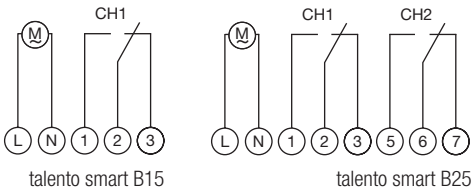
- Street lighting
- Shop window lighting
- Advertising lighting
- Machinery, motor and pump control

Videos on www.graesslin.de

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz	
Switching output	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)	
Switching capacity - resistive load	16 A / 250 V AC	
Switching capacity – inductive load cos. phi 0.6	10 A / 250 V AC	
Load of incandescent/halogen lamp	2,600 VA	
Load of fluorescent lamps	730 VA (parallel compensated), 1,000 VA (dual circuit), 1,000 VA (not compensated), 1,000 VA (series compensated)	
Load of compact fluorescent lamp	14 x 23 W, 16 x 15 W, 16 x 20 W, 18 x 11 W, 22 x 7 W	
Load of LED lamps < 2 W	Max. 100 W	
Load of LED lamps 2-8 W	Max. 600 W	
Load of LED lamps > 8 W	Max. 600 W	
Load of sodium-vapour lamp - non-compensated	1 x 400 W, 2 x 250 W	
Load of sodium-vapour lamp - parallel compensated	1 x 250 W (32 µF), 1 x 400 W (45 µF), 2 x 150 W (20 µF)	
Load of mercury-vapour lamp - parallel compensated	1 x 400 W (25 µF), 1 x 700 W (40 µF), 2 x 250 W (18 µF), 4 x 125 W (10 µF), 6 x 50 W (7 µF)	
Load of mercury-vapour lamp - non-compensated	1 x 700 W, 2 x 250 W, 4 x 125 W	
Switching capacity - DC	300 mA / 60 V DC, 800 mA / 24 V DC	
Power consumption	< 1 VA (standby mode)	
Accuracy	± 0.3 seconds/day at 20° C	
Time basis	Quartz	
Power reserve	8 years, programs saved in EEPROM	

Electrical connection		
Device	Screw terminal with wire protection max. 2.5 mm², captive screw terminals	

Communication type		
Radio signal	Bluetooth 4.0	

Operating data		
Channels	1	43.02.0001.1
	2	43.02.0002.1
Manual switch	Automatic mode, Fix ON/OFF, override	
Tampering protection	PIN code, sealable	
Programs	10 date-independent programs (Weekly program)	
	1 date-dependent program (holiday, annual program)	43.02.0001.1
	2 date-dependent programs (holiday, annual program),	43.02.0002.1
	ON, OFF, free weekday block formation	
Programming	Timer, PC, mobile devices	
Memory slots	100	
Meter	Hour meter with service function	

Display and format	
Display lighting	White
Time display format	12 h format (AM/PM), 24 h format (factory setting)
Shortest switching time	ON/OFF 1 minute
Summer/winter time	Automatic, date-based, can be deactivated
Status display	Switching state display

Ambient conditions	
Temperature (in operation)	-20° C to +55° C

General data	
Number of modules	2
Weight	180 g / 200 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	DIN rail
Languages	CS, DA, DE, EN, ES, FI, FR, HU, IT, NL, NO, PL, PT, SV

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE, FCC, VDE

DIGITAL DIN RAIL TIME SWITCHES

▶ talento smart

talento smart C15

Item no. 43.03.0001.1

talento smart C25

Item no.	43.03.0002.1	AC 110-230 V ± 10 % 50-60 Hz
	43.03.0003.1	AC/DC 12/24 V ± 10% 50-60 Hz

Product description

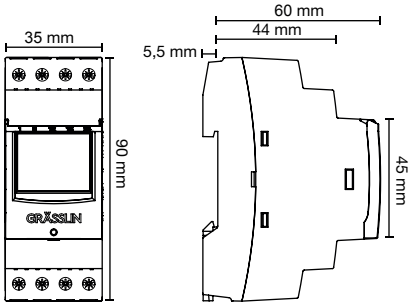
talento smart C15 / talento smart C25 is a digital 1-channel or 2-channel DIN rail time switch with 500 memory slots for creating 50 date-dependent and 50 date-independent programs. At the same time the device has further program functions such as ON, OFF, cycle, pulse, random ON and random OFF. The shortest switching time is 1 minute for the ON/OFF function and 1 second for cycle, pulse. Weekdays can be combined freely. Summer/winter time adjustment can be automatic or date-specific and can be deactivated. Automatic astronomic day/night time switching can be achieved by entering the location-specific coordinates. In addition, the clock offers many further options such as switching state display, integrated hour meter with service function, and manual switch (automatic, Fix ON/OFF, override). All status displays are indicated clearly on the display. The clock can be programmed either directly or conveniently by means of mobile devices and the corresponding apps (Android and iOS) or by means of suitable PC software. Programs can be transmitted contact-free to the device via Bluetooth.

Areas of application

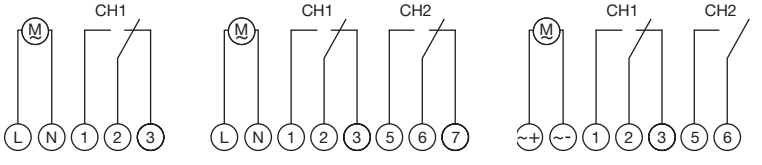
- Street lighting
- Shop window lighting
- Advertising lighting
- Machinery, motor and pump control
- Roller blind and sun blind control
- School bell / church bell control
- Presence simulation

Videos on www.graesslin.de

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz	
	AC/DC 12/24 V ± 10% 50-60 Hz	43.03.0003.1
Switching output	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)	
	1 normally open contact / 1 changeover contact	43.03.0003.1
Switching capacity - resistive load	16 A / 250 V AC	
Switching capacity – inductive load cos. phi 0.6	10 A / 250 V AC	
Load of incandescent/halogen lamp	2,600 VA	
Load of fluorescent lamps	730 VA (parallel compensated), 1,000 VA (dual circuit), 1,000 VA (not compensated), 1,000 VA (series compensated)	
Load of compact fluorescent lamp	16 x 15 W, 16 x 20 W, 14 x 23 W, 18 x 11 W, 22 x 7 W	
Load of LED lamps < 2 W	Max. 10 W	
Load of LED lamps 2-8 W	Max. 600 W	
Load of LED lamps > 8 W	Max. 600 W	
Load of sodium-vapour lamp - non-compensated	1 x 400 W, 2 x 250 W	
Load of sodium-vapour lamp - parallel compensated	1 x 250 W (32 µF), 1 x 400 W (45 µF), 2 x 150 W (20 µF)	
Load of mercury-vapour lamp - parallel compensated	1 x 400 W (25 µF), 1 x 700 W (40 µF), 2 x 250 W (18 µF), 4 x 125 W (10 µF), 6 x 50 W (7 µF)	
Load of mercury-vapour lamp - non-compensated	1 x 700 W, 2 x 250 W, 4 x 125 W	
Switching capacity - DC	300 mA / 60 V DC, 800 mA / 24 V DC	
Power consumption	< 1 VA (standby mode)	
Accuracy	± 0.3 seconds/day at 20° C	
Time basis	Quartz	
Power reserve	8 years, programs saved in EEPROM	
Electrical connection		
Device	Screw terminal with wire protection max. 2.5 mm^2, captive screw terminals	
Communication type		
Radio signal	Bluetooth 4.0	
Operating data		
Channels	1	
	2	43.03.0002.1
	2	43.03.0003.1
Manual switch	Automatic mode, Fix ON/OFF, override	
Tampering protection	PIN code, sealable	
Programs	50 date-dependent programs (holiday/annual program), 50 date-independent programs (weekly program), astro function, OFF, ON, pulse, random OFF, random ON, cycle, free weekday block formation	
Programming	Timer, PC, mobile devices	
Memory slots	500	
Meter	Hour meter with service function	
Display and format		
Display lighting	White	
Time display format	12 h format (AM/PM), 24 h format (factory setting)	
Shortest switching time	ON/OFF 1 minute, pulse 1 second, cycle 1 second	
Summer/winter time	Automatic, date-based, can be deactivated	
Status display	Switching state display	
Ambient conditions		
Temperature (in operation)	-20° C to +55° C	
General data		
Number of modules	2	
Weight	180 g / 200 g	
Material	High-temperature resistant, self-extinguishing thermoplastics	
Installation	DIN rail	
Languages	CS, DA, DE, EN, ES, FI, FR, HU, IT, NL, NO, PL, PT, SV	
Compliance with standards		
IP code	IP20	
Protection class	II, when installed accordingly	
Certification mark	CE, FCC, VDE	

DIGITAL DIN RAIL TIME SWITCHES

▶ talento smart

talento smart S25

Item no. 43.04.0001.1

Product description

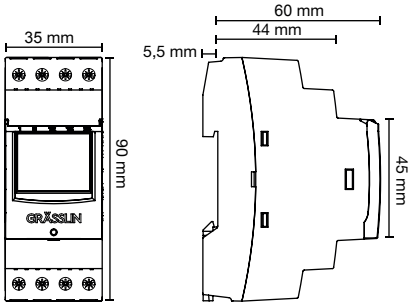
The talento smart S25 is a 2-channel DIN rail time switch with the largest scope of functions in the talento smart family. In addition to the features of the talento smart C25, it can be combined with the talento smart CE2 and expanded into an integrated system. If one or more channel extensions are connected to the talento smart S25, the corresponding number of channels is displayed on the app. The programs are transmitted to all channel extensions via Bluetooth. In this form, it offers 800 memory slots for creating 80 date-dependent and 80 date-independent programs with up to 8 channels. The connected channels can be switched synchronously.

Areas of application

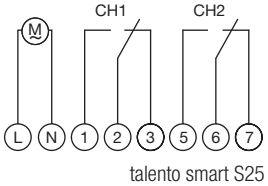
- Street lighting
- Shop window lighting
- Advertising lighting
- Machinery, motor and pump control
- Roller blind and sun blind control
- School bell / church bell control
- Presence simulation

Videos on www.graesslin.de

Dimensional drawings



Circuit diagrams



talento smart S25

Technical data

Electrical data	
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	10 A / 250 V AC
Load of incandescent/halogen lamp	2,600 VA
Load of fluorescent lamps	730 VA (parallel compensated), 1,000 VA (dual circuit), 1,000 VA (not compensated), 1,000 VA (series compensated)
Load of compact fluorescent lamp	16 x 15 W, 16 x 20 W, 14 x 23 W, 18 x 11 W, 22 x 7 W
Load of LED lamps < 2 W	Max. 100 W
Load of LED lamps 2-8 W	Max. 600 W
Load of LED lamps > 8 W	Max. 600 W
Load of sodium-vapour lamp - non-compensated	1 x 400 W, 2 x 250 W
Load of sodium-vapour lamp - parallel compensated	1 x 250 W (32 µF), 1 x 400 W (45 µF), 2 x 150 W (20 µF)
Load of mercury-vapour lamp - parallel compensated	1 x 400 W (25 µF), 1 x 700 W (40 µF), 2 x 250 W (18 µF), 4 x 125 W (10 µF), 6 x 50 W (7 µF)
Load of mercury-vapour lamp - non-compensated	1 x 700 W, 2 x 250 W, 4 x 125 W
Switching capacity - DC	300 mA / 60 V DC, 800 mA / 24 V DC
Power consumption	< 1 VA (standby mode)
Accuracy	± 0.3 seconds/day at 20° C
Time basis	Quartz
Power reserve	8 years, programs saved in EEPROM

Electrical connection	
Device	Screw terminal with wire protection max. 2.5 mm^2, captive screw terminals

Communication type	
Radio signal	Bluetooth 4.0

Operating data	
Manual switch	Automatic mode, Fix ON/OFF, override
Channels	2
Tampering protection	PIN code, sealable
Programs	80 date-dependent programs (holiday/annual program), 80 date-independent programs (weekly program), astro function, OFF, ON, pulse, random OFF, random ON, cycle, free weekday block formation
Programming	Timer, PC, mobile devices
Memory slots	800
Meter	Hour meter with service function

Display and format	
Display lighting	White
Time display format	12 h format (AM/PM), 24 h format (factory setting)
Shortest switching time	ON/OFF 1 minute, pulse 1 second, cycle 1 second
Summer/winter time	Automatic, date-based, can be deactivated
Status display	Switching state display

Ambient conditions	
Temperature (in operation)	-20° C to +55° C

General data	
Number of modules	2
Weight	200 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	DIN rail
Languages	CS, DA, DE, EN, ES, FI, FR, HU, IT, NL, NO, PL, PT, SV

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE, FCC, VDE

DIGITAL DIN RAIL TIME SWITCHES

▶ talento smart

talento smart CE2

Item no. 43.04.0004.1

Product description

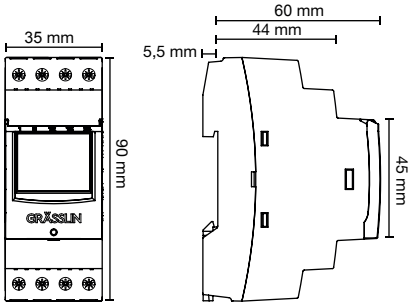
The talento smart CE2 channel extension can be used in combination with the talento smart S25 to create a system with up to 8 channels. The channel extension receives its configuration and programs from the talento smart S25 via Bluetooth 4.0. The channel extensions are controlled with a talento smart S25, either via smartphone and corresponding Apps (Android and iOS) or via PC programming.

Areas of application

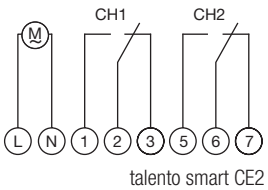
- Advertising lighting
- Street lighting
- Shop window lighting
- Device, motor or pump control
- Roller blind and sun blind control
- Presence simulation
- Locking systems in buildings
- School bell / church bell control

Videos on www.graesslin.de

Dimensional drawings



Circuit diagrams



talento smart CE2

Technical data

Electrical data	
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	10 A / 250 V AC
Load of incandescent/halogen lamp	2,600 VA
Load of fluorescent lamps	730 VA (parallel compensated), 1,000 VA (dual circuit), 1,000 VA (not compensated), 1,000 VA (series compensated)
Load of compact fluorescent lamp	16 x 15 W, 16 x 20 W, 14 x 23 W, 18 x 11 W, 22 x 7 W
Load of LED lamps < 2 W	Max. 100 W
Load of LED lamps 2-8 W	Max. 600 W
Load of LED lamps > 8 W	Max. 600 W
Load of sodium-vapour lamp - non-compensated	1 x 400 W, 2 x 250 W
Load of sodium-vapour lamp - parallel compensated	1 x 250 W (32 µF), 1 x 400 W (45 µF), 2 x 150 W (20 µF)
Load of mercury-vapour lamp - parallel compensated	1 x 400 W (25 µF), 1 x 700 W (40 µF), 2 x 250 W (18 µF), 4 x 125 W (10 µF), 6 x 50 W (7 µF)
Load of mercury-vapour lamp - non-compensated	1 x 700 W, 2 x 250 W, 4 x 125 W
Switching capacity - DC	300 mA / 60 V DC, 800 mA / 24 V DC
Power consumption	< 1 VA (standby mode)
Accuracy*	± 0.3 seconds /day at 20° C
Power reserve	none

Electrical connection	
Device	Screw terminal with wire protection max. 2.5 mm^2, Captive screw terminals

Communication type	
Radio signal	Bluetooth 4.0

Operating data	
Manual switch	Automatic mode, Fix ON/OFF, override
Channels	2
Tampering protection	PIN code*, sealable, * only in combination with talento smart S25
Programs*	Astro function, OFF, ON, pulse, random OFF, random ON, cycle, free weekday block formation
Programming	talento smart S25
Meter	Hour meter with service function

Display and format	
Display lighting	White
Time display format*	12 h format (AM/PM), 24 h format (factory setting)
Shortest switching time*	ON/OFF 1 minute, pulse 1 second, cycle 1 second
Status display	Switching state display

Ambient conditions	
Temperature (in operation)	-20° C to +55° C

General data	
Number of modules	2
Weight	200 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	DIN rail
Languages	CS, DA, DE, EN, ES, FI, FR, HU, IT, NL, NO, PL, PT, SV

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE, FCC, VDE

DIGITAL DIN RAIL TIME SWITCHES

▶ talento smart

talento smart LAN

Item no. 43.04.0006.1

Product description

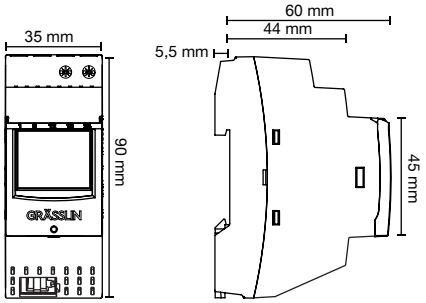
The LAN module enables fast and simple data transmission via LAN network and serves as a link between the PC and the talento smart S25. This is a significant aid to specialists for heating systems: various templates created on the PC can be transmitted to or read out from the talento smart S25 remotely via an IP network or the cloud. With the LAN module, it is easily possible to link up to 5 talento smart S25 timers. This offers the perfect solution for managing complex fields of application, e.g. supermarkets, chain stores, schools and large administrative buildings.

Areas of application

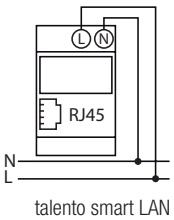
- Supermarkets
- Chain stores
- Administrations (e.g. city governments)
- Schools

Videos on www.graesslin.de

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V ± 10 % 50-60 Hz
Power consumption	4 W

Electrical connection	
Device	Screw terminal with wire protection max. 2.5 mm^2, Captive screw terminals
Network connection (Ethernet)	RJ45

Communication type	
Radio signal	Bluetooth 4.0
Protocols	HTTP, HTTPS, TCP/IP, DHCP, UDP, SNTP, MQTT, ICMP

Operating data	
Tampering protection	PIN code, sealable

Display and format	
Display lighting	White

Ambient conditions	
Temperature (in operation)	-20° C to +55° C

General data	
Number of modules	2
Weight	200 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	DIN rail
Languages	CS, DA, DE, EN, ES, FI, FR, HU, IT, NL, NO, PL, PT, SV

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE

DIGITAL DIN RAIL TIME SWITCHES

▶ talento smart

talento smart B10 mini

Item no. 43.02.0005.1

Product description

The talento smart B10 mini is a one module wide DIN rail time switch without a display. The space-saving design is particularly useful for retrofitting into tightly occupied distribution boards. Programs can be created directly via an App on a smartphone, tablet or PC and transmitted contact-free to the clock via a Bluetooth interface. They can be created with or without a date, and multiple weekdays can be individually combined and grouped. The talento smart B10 mini has 50 memory slots.

Areas of application

- Street lighting
- Shop window lighting
- Advertising lighting
- Machinery, motor and pump control

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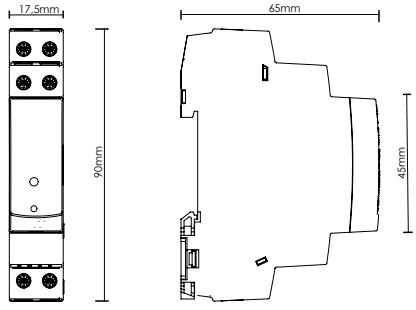
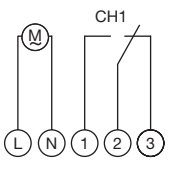
Videos on www.graesslin.de

Dimensional drawings



Circuit diagrams



talento smart B10 mini

Technical data

Electrical data	
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	10 A / 250 V AC
Load of incandescent/halogen lamp	2,600 VA
Load of fluorescent lamps	730 VA (parallel compensated), 1,000 VA (dual circuit), 1,000 VA (not compensated), 1,000 VA (series compensated)
Load of compact fluorescent lamp	16 x 15 W, 16 x 20 W, 14 x 23 W, 18 x 11 W, 22 x 7 W
Load of LED lamps < 2 W	Max. 100 W
Load of LED lamps < 2 W	Max. 360 W
Load of sodium-vapour lamp - non-compensated	1 x 400 W, 2 x 250 W
Load of sodium-vapour lamp - parallel compensated	1 x 250 W (32 µF), 1 x 400 W (45 µF), 2 x 150 W (20 µF)
Load of mercury-vapour lamp - parallel compensated	1 x 400 W (25 µF), 1 x 700 W (40 µF), 2 x 250 W (18 µF), 4 x 125 W (10 µF), 6 x 50 W (7 µF)
Load of mercury-vapour lamp - non-compensated	1 x 700 W, 2 x 250 W, 4 x 125 W
Switching capacity - DC	300 mA / 60 V DC, 800 mA / 24 V DC
Power consumption	< 1 VA (standby mode)
Accuracy	± 0.3 seconds/day at 20° C
Time basis	Quartz
Power reserve	72 hours, program saved in EEPROM

Electrical connection	
Device	Screw terminal with wire protection max. 2.5 mm^2, Captive screw terminals

Communication type	
Radio signal	Bluetooth 4.0

Operating data	
Manual switch	Automatic mode, Fix ON/OFF, override
Tampering protection	PIN code
Programming	PC, mobile devices
Memory slots	100
Meter	Hour meter via APP

Display and format	
Display lighting	-
Summer/winter time adjustment via APP	Automatic, date-based, can be deactivated
Status display	Switching state display, 2 LEDs

Ambient conditions	
Temperature (in operation)	-20° C to +55° C

General data	
Number of modules	1
Weight	100 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	DIN rail
Languages	-

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE

ANALOGUE DIN RAIL TIME SWITCHES

▶ talento – overview

	talento 111 mini	talento 211 mini	talento 111
			
Item no.	01.06.0004.1	02.03.0003.1	01.28.0001.1
EAN code	4010940022556	4010940022563	4010940020668
Supply voltage	AC 220-240 V ± 10 % 50 Hz	DC 130 V AC 230 V ± 10 % 50-60 Hz	AC 220-240 V ± 10 % 50 Hz
Switching output	Normally open contact, potential-free	Normally open contact, potential-free	Changeover contact, potential-free
Channels	1	1	1
Number of modules	1	1	3
Shortest switching time	30 minutes	30 minutes	30 minutes
Accuracy	Mains synchronised	± 2.5 seconds/day at 20° C	Mains synchronised
Power reserve	–	72 hours	–
Program (switching programs)	Daily program	Daily program	Daily program
Time	without pointer	without pointer	Analogue pointer
Drive type	Synchronous	Quartz	Synchronous
Accessories	Wall installation kit 1 TE	Wall installation kit 1 TE	Wall installation kit 2-3 TE
Page	**34**	**34**	**36**

talento 121	talento 211	talento 271
		
01.28.0003.1	02.28.0001.1	02.28.0004.1
4010940020682	4010940020750	4010940020729
AC 220-240 V ± 10 % 50 Hz	DC 130 V AC 230 V ± 10% 50-60 Hz	DC 130 V AC 230 V ± 10% 50-60 Hz
Changeover contact, potential-free	Changeover contact, potential-free	Changeover contact, potential-free
1	1	1
3	3	3
1.25 minutes	30 minutes	3 hours
Mains synchronised	± 2.5 seconds/day at 20° C	± 2.5 seconds/day at 20° C
–	72 hours	72 hours
Hourly program	Daily program	Weekly program
Analogue pointer	Analogue pointer	Analogue pointer
Synchronous	Quartz	Quartz
Wall installation kit 2-3 TE	Wall installation kit 2-3 TE	Wall installation kit 2-3 TE
36	**38**	**38**

ANALOGUE DIN RAIL TIME SWITCHES

▶ talento

talento 111 mini

Item no. 01.06.0004.1

talento 211 mini

Item no. 02.03.0003.1

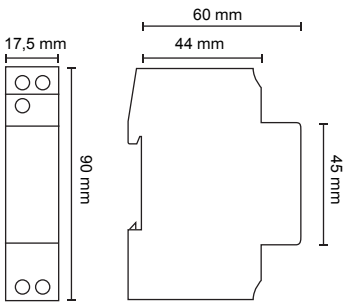
Product description

The analogue DIN rail time switch talento 111 mini enables switching commands in the daily program. The timer with single module width is equipped with a synchronous motor and can be integrated easily into a control cabinet due to its narrow design. The shortest switching time is 30 minutes. This device is characterised by fast, easy programming. The analogue DIN rail timeswitch talento 211 mini is powered by a quartz motor and is designed for switching commands in the daily program. The space-saving clock is one module in width and has a power reserve of up to 50 hours. The shortest switching time is 30 minutes. This device is characterised by fast, easy programming.

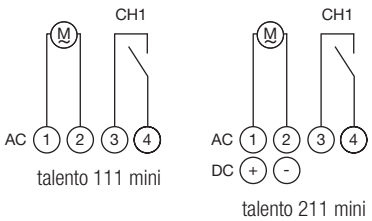
Areas of application

- Advertising lighting
- Shop window lighting
- Water treatment
- Pump control

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 220-240 V ± 10 % 50 Hz	01.06.0004.1
	DC 130 V	02.03.0003.1
	AC 230 V ± 10 % 50-60 Hz	
Switching output	Normally open contact, potential-free	
Switching capacity - resistive load	16 A / 250 V AC	
Switching capacity – inductive load cos. phi 0.6	4 A / 250 V AC	
Load of incandescent lamp	1,000 W	
Power consumption	1 VA	
Electrical connection		
Device	Screw terminal with wire protection max. 4 mm^2	
	Captive screw terminals	
Operating data		
Manual switch	Automatic mode, Fix ON	
Channels	1	
Tampering protection	Sealable	
Programs	Daily program (ON/OFF)	
Display and format		
Shortest switching time	ON/OFF 30 minutes	
Ambient conditions		
Temperature (in operation)	-25° C to +55° C	01.06.0004.1
	-20° C to +55° C	02.03.0003.1
General data		
Number of modules	1	
Installation	DIN rail	
Weight	100g / 110g	
Compliance with standards		
IP code	IP20	
Protection class	II, when installed accordingly	
Certification mark	CE	
	VDE	

ANALOGUE DIN RAIL TIME SWITCHES

▶ talento

talento 111

Item no. 01.28.0001.1

talento 121

Example

Item no. 01.28.0003.1

Product description

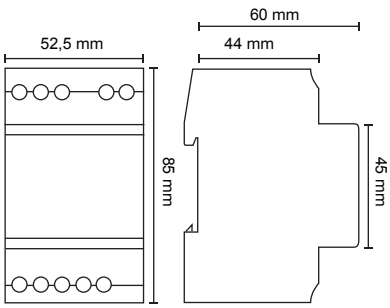
The analogue DIN rail time switch talento 111 is three modules wide and available as a daily version. It is equipped with a pointer mechanism, which makes it much easier to set the time. The time and switching times can be checked at a glance and programmed in just a few steps. A synchronous motor is the heart of the clock. The clock can be programmed with the shortest switching time of 30 minutes.

The analogue DIN rail time switch talento 121 is three modules wide. It has a synchronous motor. The clock is designed for an hourly program and has a shortest switching time of 1.25 minutes. It is equipped with a pointer mechanism, which makes it much easier to set the time. The time and switching times can be checked at a glance and programmed in just a few steps.

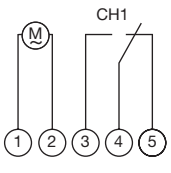
Areas of application

- Advertising lighting
- Shop window lighting
- Water treatment
- Pump control

Dimensional drawings



Circuit diagrams



talento 111 / 121

Technical data

Electrical data	
Supply voltage	AC 220-240 V ± 10 % 50 Hz
Switching output	Changeover contact, potential-free
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	4 A / 250 V AC
Load of incandescent lamp	1,350 W
Power consumption	1 VA
Accuracy	Mains synchronised
Power reserve	–

Electrical connection	
Device	Screw terminal with wire protection max. 4 mm^2
	Captive screw terminals

Operating data	
Manual switch	Automatic mode
	Fix ON/OFF
Channels	1
Tampering protection	Sealable

Display and format	
Time	Analogue pointer

Ambient conditions	
Temperature (in operation)	-25° C to +55° C

General data	
Number of modules	3
Weight	170 g
Installation	DIN rail

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE
	VDE

ANALOGUE DIN RAIL TIME SWITCHES

▶ talento

talento 211

Item no. 02.28.0001.1

talento 271

Example

Item no. 02.28.0004.1

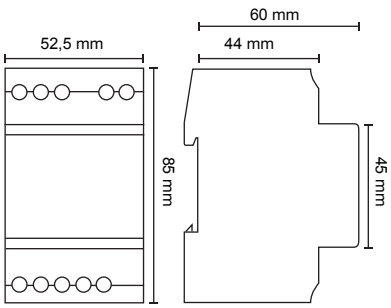
Product description

The analogue DIN rail time switch are powered by a quartz motor. While the talento 211 is designed for a daily program with a shortest switching time of 30 minutes, the talento 271 has a weekly program and is designed with a shortest switching time of 3 hours. A pointer mechanism enables quick and easy programming. Both clocks have a power reserve of up to 72 hours.

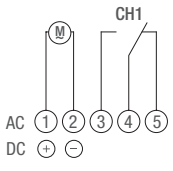
Areas of application

- Advertising lighting
- Shop window lighting
- Water treatment
- Pump control

Dimensional drawings



Circuit diagrams



talento 211 / 271

Technical data

Electrical data	
Supply voltage	AC 230 V / DC 130 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	4 A / 250 V AC
Load of incandescent lamp	1,350 W
Power consumption	1 VA
Accuracy	± 2.5 seconds /day at 20°C
Power reserve	72 hours

Electrical connection	
Device	Screw terminal with wire protection max. 4 mm^2
	Captive screw terminals

Operating data	
Manual switch	Automatic mode, Fix ON/OFF
Channels	1
Tampering protection	Sealable

Display and format	
Time	Analogue pointer

Ambient conditions	
Temperature (in operation)	-20° C to +55° C

General data	
Number of modules	3
Weight	170 g
Installation	DIN rail

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE
	VDE

DIGITAL UNIVERSAL TIME SWITCHES

▶ tactic – overview

	tactic 372.1 plus **Discontinued model**	**tactic 571.1 plus** **Discontinued model**	**tactic 572.1 plus** **Discontinued model**
			
Item no.	03.62.0002.1	03.87.0001.1	03.87.0003.1
EAN code	4010940038014	4010940038021	4010940038045
Channels	2	1	2
Memory slots	20	50	50
Supply voltage	AC 230 V ± 10 % 50-60 Hz	AC 230 V ± 10 % 50-60 Hz	AC 230 V ± 10 % 50-60 Hz
Switching capacity - resistive load	16 A / 250 V AC	16 A / 250 V AC	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	2.5 A / 250 V AC	8 A / 250 V AC	2.5 A / 250 V AC
Switching capacity - DC	1.3 A / 24 V DC 0.7 A / 60 V DC 0.3 A / 100 V DC	10 A / 24 V DC 3 A / 60 V DC 1 A / 100 V DC	1.3 A / 24 V DC 0.7 A / 60 V DC 0.3 A / 100 V DC
Load of incandes-cent/halogen lamp	500 W	1,000 W	500 W
Program (switching programs)	Daily program Weekly program	Daily program Weekly program Free weekday block formation	Daily program Weekly program Free weekday block formation
Text programming	–	√	√
Summer/winter time	Manual	Automatic	Automatic
Accessories	Base Terminal cover Catch frame Glass	Base Terminal cover Glass Sealing glass	Base Terminal cover Catch frame Glass
Page	**42**	**44**	**44**

	tactic smart C15.1* NEW	tactic smart C25.1* NEW
		
Item no.	43.87.0002.1	43.87.0004.1
EAN code	4010940046217	4010940046231
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz	AC 230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)
Channels	1	2
Memory slots	500	500
Program / functions	50 date-independent programs (Weekly program) 50 date-dependent programs (Holiday, annual program) Free weekday block formation ON OFF Pulse Cycle Astro function Random ON Random OFF	50 date-independent programs (Weekly program) 50 date-dependent programs (Holiday, annual program) Free weekday block formation ON OFF Pulse Cycle Astro function Random ON Random OFF
Shortest switching time	ON/OFF 1 minute Pulse 1 second Cycle 1 second	ON/OFF 1 minute Pulse 1 second Cycle 1 second
Programming on PC, mobile devices	√	√
Interface	Bluetooth 4.0	Bluetooth 4.0
Page	**46**	**46**

*Example, should be available from 3rd quarter of 2020

DIGITAL UNIVERSAL TIME SWITCHES

▶ tactic

tactic 372.1 plus

Item no. 03.62.0002.1

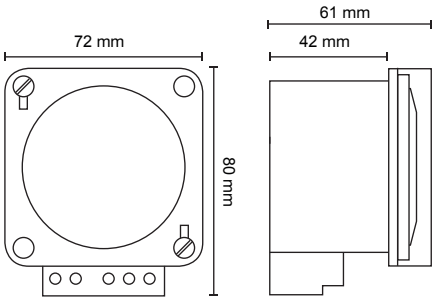
Product description

tactic 371.1 plus is a 2-channel universal time switch. The clock has 20 memory slots. The switch between summer and winter time is performed manually. The clock offers various programs: It is possible to create free or Fix programs for individual days and combine weekdays into blocks.

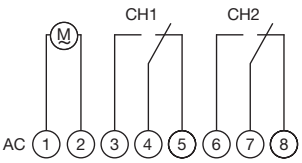
Areas of application

- Machinery control
- Heating system control
- Device, motor and pump control

Dimensional drawings



Circuit diagrams



tactic 372.1 plus

Technical data

Electrical data	
Supply voltage	AC 230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	2.5 A / 250 V AC
Load of incandescent lamp	500 W
Switching capacity - DC	1.3 A / 24 V DC 0.7 A / 60 V DC 0.3 A / 100 V DC
Power consumption	4.4 VA
Accuracy	± 1 second/day at 20° C
Power reserve	3 years

Electrical data	
Device	Screw terminal with wire protection 2.5 mm² (DIN rail, mounting) Flat plug DIN 6.3 (installation)

Operating data	
Manual switch	Automatic mode, Fix ON/OFF
Channels	2
Programs	Daily program (ON/OFF) Weekly program (ON/OFF) Set individual days or weekday block formation Menu programming with free and Fix programs
Memory slots	20

Display and format	
Time display format	12-hour format (AM/PM) 24-hour format
Shortest switching time	ON/OFF 1 minute
Summer/winter time	Manual
Time	Digital
Status display	Switching state display

Ambient conditions	
Temperature (in operation)	-10° C to +45° C

General data	
Weight	190 g

Compliance with standards	
Certification mark	CE

Contents	
Housing	Terminal cover 2-channel Catch frame 2-channel Base, 2-channel

DIGITAL UNIVERSAL TIME SWITCHES

▶ tactic

tactic 571.1 plus

Item no. 03.87.0001.1

tactic 572.1 plus

Item no. 03.87.0003.1

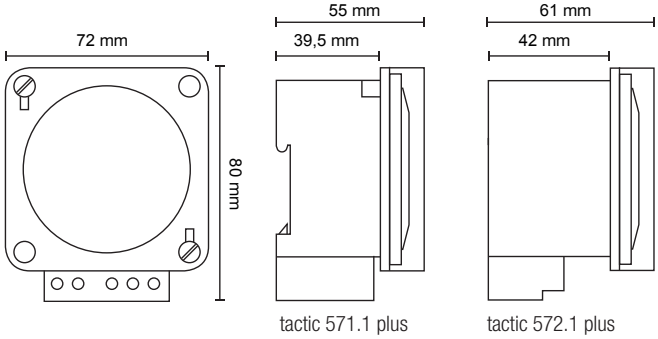
Product description

tactic 571.1 plus / tactic 572.1 plus are a 1-channel and a 2-channel time switch respectively. The clock has 50 memory slots. It is possible to create daily programs and combine weekdays freely into blocks. The switch from summer to winter time is performed automatically and can be deactivated. The clock is protected by a sealable glass cover.

Areas of application

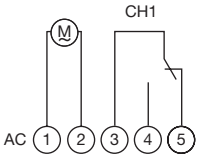
- Machinery control
- Heating system control
- Device, motor and pump control

Dimensional drawings

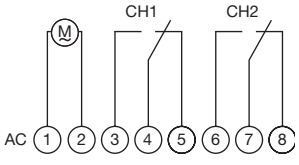


tactic 571.1 plus tactic 572.1 plus

Circuit diagrams



tactic 571.1 plus



tactic 572.1 plus

Technical data

Electrical data		
Supply voltage	AC 230 V ± 10 % 50-60 Hz	
Switching output	Changeover contact, potential-free	
Switching capacity - resistive load	16 A / 250 V AC	
Power consumption	4.4 VA	
Accuracy	± 1 second/day at 20° C	
Power reserve	3 years	

Device	Screw terminal with wire protection 2.5 mm² (DIN rail, mounting)	
	Flat plug DIN 6.3 (installation)	

Operating data		
Channels	1	03.87.0001.1
	2	03.87.0003.1
Manual switch	Automatic mode, Fix ON/OFF	
Memory slots	50	
Programs	Daily program (ON/OFF), weekly program (ON/OFF)	
	Free weekday block formation	

Display and format	
Time display format	12-hour format (AM/PM), 24-hour format
Shortest switching time	ON/OFF 1 minute
Summer/winter time	Automatic
Time	Digital
Status display	Switching state display

Ambient conditions	
Temperature (in operation)	-10° C to +45° C

General data	
Colour	Grey
Languages	CS, DE, EN, ES, FR, HU, IT, PT

Compliance with standards	
Certification mark	CE

Contents	
Housing	Glass

DIGITAL UNIVERSAL TIME SWITCHES

▶ tactic smart

tactic smart C15.1*
tactic smart C25.1*

*Example, should be available from 3rd quarter of 2020

Item no. 43.87.0002.1
43.87.0004.1

Product description

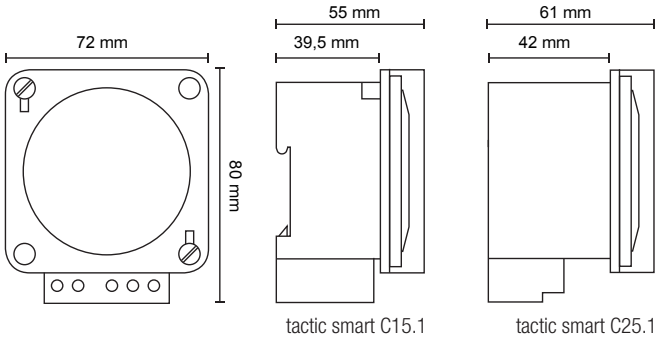
The module of the talento smart C15 / C25 has been integrated in this 1-channel / 2-channel universal time switch. This means it can be controlled via an App and is Bluetooth-enabled. tactic smart C15.1 / C25.1 has 500 memory slots for creating 50 date-dependent and 50 date-independent programs. The shortest switching time is 1 minute for the ON/OFF function and 1 second for cycle, pulse. Weekdays can be combined freely. Summer/winter time adjustment can be automatic or date-specific and can be deactivated. Automatic astronomic day/night time switching can be achieved by entering the location-specific coordinates. All status displays are indicated clearly on the display. The clock can be programmed either directly or conveniently by means of mobile devices and the corresponding Apps (Android and iOS) or by means of suitable PC software. Programs can be transmitted contact-free to the device via Bluetooth.

Areas of application

- Street lighting
- Shop window lighting
- Advertising lighting
- Machinery, motor and pump control
- Roller blind and sun blind control
- School bell / church bell control
- Presence simulation

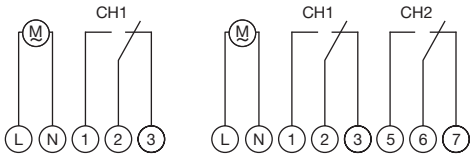
ON BOARD TECHNOLOGY Bluetooth · GRÄSSLIN smart link · GET IT ON Google play · Available on the App Store · MADE IN GERMANY

Dimensional drawings



tactic smart C15.1 tactic smart C25.1

Circuit diagrams



tactic smart C15.1 tactic smart C25.1

Technical data

Electrical data	
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	10 A / 250 V AC
Load of incandescent/halogen lamp	2,600 VA
Load of fluorescent lamps	730 VA (parallel compensated), 1,000 VA (dual circuit), 1,000 VA (not compensated), 1,000 VA (series compensated)
Load of compact fluorescent lamp	16 x 15 W, 16 x 20 W, 14 x 23 W, 18 x 11 W, 22 x 7 W
Load of LED lamps < 2 W	Max. 100 W
Load of LED lamps 2-8 W	Max. 600 W
Load of LED lamps > 8 W	Max. 600 W
Load of sodium-vapour lamp - non-compensated	1 x 400 W, 2 x 250 W
Load of sodium-vapour lamp - parallel compensated	1 x 250 W (32 µF), 1 x 400 W (45 µF), 2 x 150 W (20 µF)
Load of mercury-vapour lamp - parallel compensated	1 x 400 W (25 µF), 1 x 700 W (40 µF), 2 x 250 W (18 µF), 4 x 125 W (10 µF), 6 x 50 W (7 µF)
Load of mercury-vapour lamp - non-compensated	1 x 700 W, 2 x 250 W, 4 x 125 W
Switching capacity - DC	300 mA / 60 V DC, 800 mA / 24 V DC
Power consumption	< 1 VA (standby mode)
Accuracy	± 0.3 seconds/day at 20° C
Time basis	Quartz
Power reserve	6 years, programs saved in EEPROM

Electrical connection	
Device	Screw terminal with wire protection 2.5 mm² (DIN rail, mounting) Flat plug DIN 6.3 (installation)

Communication type	
Radio signal	Bluetooth 4.0

Operating data		
Channels	1 2	 43.87.0004.1
Manual switch	Automatic mode, Fix ON/OFF, override	
Tampering protection	PIN code, sealable	
Programs	50 date-dependent programs (holiday/annual program), 50 date-independent programs (weekly program), astro function, OFF, ON, pulse, random OFF, random ON, cycle, free weekday block formation	
Programming	Timer, PC, mobile devices	
Memory slots	500	
Meter	Hour meter with service function	

Display and format	
Display lighting	White
Time display format	12 h format (AM/PM), 24 h format (factory setting)
Shortest switching time	ON/OFF 1 minute, pulse 1 second, cycle 1 second
Summer/winter time	Automatic, date-based, can be deactivated
Status display	Switching state display

Ambient conditions	
Temperature (in operation)	-20° C to +45° C

General data	
Weight	180 g / 200 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	DIN rail, mounting, installation
Languages	CS, DA, DE, EN, ES, FI, FR, HU, IT, NL, NO, PL, PT, SV

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE

ANALOGUE UNIVERSAL TIME SWITCHES

▶ tactic – overview

	tactic 111.1	tactic 171.1	tactic 211.1
			
Item no.	01.80.0001.1	01.80.0002.1	02.80.0001.1
EAN code	4010940003975	4010940003982	4010940004019
Supply voltage	AC 220-240 V ± 10 % 50 Hz	AC 220-240 V ± 10 % 50 Hz	DC 130 V AC 230 V ± 10 % 50-60 Hz
Power consumption	1 VA	1 VA	2 VA
Switching output	Changeover contact, potential-free	Changeover contact, potential-free	Changeover contact, potential-free
Shortest switching time	15 minutes	2 hours	15 minutes
Accuracy	Mains synchronised	Mains synchronised	± 1.5 seconds /day at 20° C
Power reserve	–	–	72 hours
Program (switching programs)	Daily program (ON/OFF)	Weekly program (ON/OFF)	Daily program (ON/OFF)
Drive type	Synchronous	Synchronous	Quartz
Accessories	Seal Installation base Glass Terminal cover Sealing glass Base	Seal Installation base Glass Terminal cover Sealing glass Base	Seal Installation base Glass Terminal cover Sealing glass Base
Page	**50**	**50**	**50**

tactic 271.1

02.80.0002.1	
4010940004026	
DC 130 V AC 230 V ± 10 % 50-60 Hz	
2 VA	
Changeover contact, potential-free	
2 hours	
± 1.5 seconds /day at 20° C	
72 hours	
Weekly program (ON/OFF)	
Quartz	
Seal Installation base Glass Terminal cover Sealing glass Base	

50

GRÄSSLIN

ANALOGUE UNIVERSAL TIME SWITCHES

▶ tactic

tactic 111.1
tactic 171.1*

Item no. 01.80.0001.1 tactic 111.1
01.80.0002.1 tactic 171.1

tactic 211.1
tactic 271.1*

*Example

Item no. 02.80.0001.1 tactic 211.1
02.80.0002.1 tactic 271.1

Product description

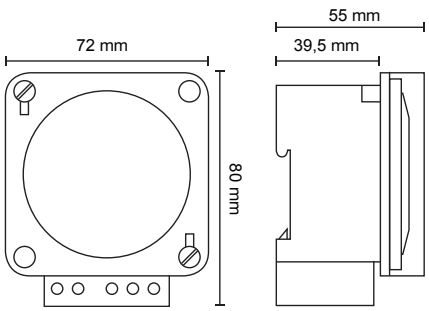
tactic 111.1 is a 1-channel universal time switch with a synchronous motor. It is designed for a daily ON/OFF program and has a shortest switching time of 15 minutes. The tactic 171.1 is a 1-channel universal time switch with a synchronous motor. It is designed for a weekly ON/OFF program and has a switching time of 2 hours.

The tactic 211.1 and tactic 271.1 are powered by a quartz motor. tactic 211.1 is the daily ON/OFF version with a switching time of 15 minutes. tactic 271.1 covers the weekly ON/OFF program with a switching time of 2 hours. The devices have a power reserve of 72 hours.

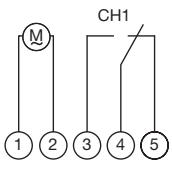
Areas of application

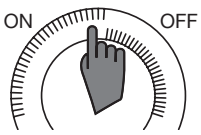
- Machinery control
- Heating system control
- Device, motor and pump control

Dimensional drawings



Circuit diagrams





Technical data

Electrical data		
Supply voltage	AC 220-240 V ± 10 % 50 Hz	01.80.0001.1
	AC 220-240 V ± 10 % 50 Hz	01.80.0002.1
	DC 130 V / AC 230 V ± 10 % 50-60 Hz	02.80.0001.1
	DC 130 V / AC 230 V ± 10 % 50-60 Hz	02.80.0002.1
Switching output	Changeover contact, potential-free	
Switching capacity - resistive load	16 A / 250 V AC	
	21 A / 250 V AC (UL)	
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC	
Load of incandescent lamp	1,300 W	
Electrical connection		
Device	Screw terminal with wire protection 2.5 mm² (DIN rail, mounting)	
	Flat plug DIN 6.3 (installation)	
Operating data		
Programs	Daily program (On/Off)	01.80.0001.1
	Weekly program (On/Off)	01.80.0002.1
	Daily program (On/Off)	02.80.0001.1
	Weekly program (On/Off)	02.80.0002.1
Manual switch	Automatic mode	
	Fix ON/OFF	
Channels	1	
Tampering protection	Sealable	
Ambient conditions		
Temperature (in operation)	-20° C to +45° C	
General data		
Colour	Grey	
Compliance with standards		
Protection class	II, when installed accordingly	
Certification mark	CE, VDE	
Contents		
Housing	Glass	
	Terminal cover	
	Base	

TIME SWITCH MODULES - DIGITAL / ANALOGUE

▶ FMD - FM – overview

	FMD 120 Discontinued model	FMD smart C15* NEW
		
Item no.	03.58.0017.1	43.60.0001.1
EAN code	4010940037949	4010940046255
Supply voltage	AC 230 V ± 10 % 50-60 Hz	AC 110-230 V ± 10 % 50-60 Hz
Switching capacity - resistive load	16 A / 250 V AC	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	4 A / 250 V AC	10 A / 250 V AC
Load of incandescent lamp	1,000 W	2,600 VA
Switching capacity - DC	10 A / 24 V DC, 3 A / 60 V DC, 1 A / 100 V DC	300 mA / 60 V DC, 800 mA / 24 V DC
Power consumption	4.4 VA	< 1 VA (standby mode)
Accuracy	± 1 second/day at 20° C	± 0.3 seconds/day at 20° C
Power reserve	3 years	6 years, programs saved in EEPROM
Manual switch	Automatic mode, override	Automatic mode, Fix ON/OFF, override
Program (switching programs)	Daily program (ON/OFF), Weekly program (ON/OFF) Set individual days or weekday block formation Menu programming with free and Fix programs	50 date-dependent programs (holiday/annual program), 50 date-independent programs (weekly program), astro function, OFF, ON, pulse, random OFF, random ON, cycle, free weekday block formation
Memory slots	20	500
Time display format	12-hour format (AM/PM), 24-hour format	12 h format (AM/PM), 24 h format (factory setting)
Shortest switching time	ON/OFF 1 minute	ON/OFF 1 minute, pulse 1 second, cycle 1 second
Time	Digital	Digital
Summer/winter time adjustment	Manual	Automatic, date-based, can be deactivated
Status display	Switching state display	Switching state display
Drive type	–	-
Operating temperature	-10° C to +55° C	-20° C to +55° C
Accessories	–	-
Page	**54**	**56**

*Example, should be available from 3rd quarter of 2020

FM/1 STuZH	FM/1 QRTuZH	FM/1 QRWuZH
		
01.76.0088.1	02.76.0075.1	02.76.0076.1
4010940000264	4010940000592	4010940000608
AC 220-240 V ± 10 % 50 Hz	DC 130 V AC 230 V ± 10 % 50-60 Hz	DC 130 V AC 230 V ± 10 % 50-60 Hz
16 A / 250 V AC 21 A / 250 V AC (UL)	16 A / 250 V AC 21 A / 250 V AC (UL)	16 A / 250 V AC 21 A / 250 V AC (UL)
8 A / 250 V AC	8 A / 250 V AC	8 A / 250 V AC
1,350 W	1,350 W	1,350 W
–	–	–
1 VA	2 VA	2 VA
Mains synchronised	± 1.5 seconds /day at 20° C	± 1.5 seconds /day at 20° C
–	72 hours	72 hours
Automatic mode, Fix ON/OFF	Automatic mode, Fix ON/OFF	Automatic mode, Fix ON/OFF
Daily program (ON/OFF)	Daily program (ON/OFF)	Weekly program (ON/OFF)
–	–	–
–	–	–
15 minutes	15 minutes	2 hours
Analogue	Analogue	Analogue
–	–	–
–	–	–
Synchronous	Quartz	Quartz
-40° C to +85° C	-20° C to +55° C	-20° C to +55° C
Glass Installation base	Glass Installation base	Glass Installation base
58	**58**	**58**

DIGITAL TIME SWITCH MODULES

▶ FMD

FMD 120

Item no. 03.58.0017.1

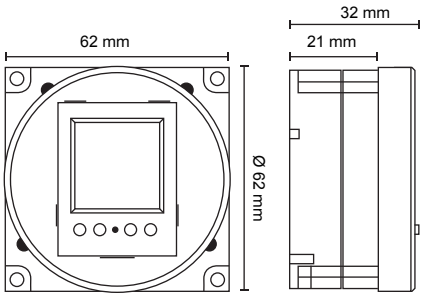
Product description

FMD 120 is a 1-channel module with 20 memory slots. Programs can be created for individual days (daily program ON/OFF) or for consecutive weekdays combined into blocks (weekly program ON/OFF). Menus can operate with free and Fix programs. The switch from summer to winter time is performed manually.

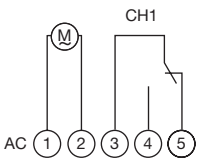
Areas of application

- Household appliance control
- Gas boiler control
- Device, motor and pump control

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	4 A / 250 V AC
Load of incandescent lamp	1,000 W
Switching capacity - DC	10 A / 24 V DC, 3 A / 60 V DC, 1 A / 100 V DC
Power consumption	4.4 VA
Current consumption	0.015 mA (without load)
Accuracy	± 1 second/day at 20° C
Power reserve	3 years

Electrical connection	
Device	Flat plug DIN 6.3

Operating data	
Manual switch	Automatic mode, override
Channels	1
Programs	Daily program (ON/OFF), weekly program (ON/OFF) Set individual days or weekday block formation Menu programming with free and Fix programs
Memory slots	20

Display and format	
Time display format	12-hour format (AM/PM), 24-hour format
Shortest switching time	ON/OFF 1 minute
Time	Digital
Summer/winter time adjustment	Manual
Status display	Switching state display

Ambient conditions	
Temperature (in operation)	-10° C to +55° C

General data	
Colour	Grey
Weight	90 g

Compliance with standards	
Certification mark	CE

DIGITAL TIME SWITCH MODULES

▶ FMD smart

FMD smart C15*

*Example, should be available from 3rd quarter of 2020

Item no. 43.60.0001.1

Product description

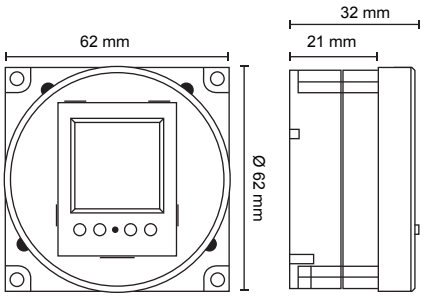
The digital module of the talento smart C15 has been integrated in this time switch module. This means it can be controlled via an app and is Bluetooth-enabled. FMD smart C15 has 500 memory slots for creating 50 date-dependent and 50 date-independent programs. The shortest switching time is 1 minute for the ON/OFF function and 1 second for cycle, pulse. Weekdays can be combined freely. Summer/winter time adjustment can be automatic or date-specific and can be deactivated. Automatic astronomic day/night time switching can be achieved by entering the location-specific coordinates. The module can be programmed either directly or conveniently by means of mobile devices and the corresponding Apps (Android and iOS) or by means of suitable PC software. Programs can be transmitted contact-free to the device via Bluetooth.

Areas of application

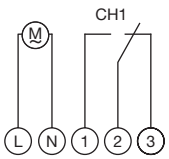
- Household appliance control
- Gas boiler control
- Device, motor and pump control

ON BOARD TECHNOLOGY Bluetooth · smart link · GET IT ON Google play · Available on the App Store · MADE IN GERMANY

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm, phase-independent (zero crossing)
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	10 A / 250 V AC
Load of incandescent/halogen lamp	2,600 VA
Load of fluorescent lamps	730 VA (parallel compensated), 1,000 VA (dual circuit), 1,000 VA (not compensated), 1,000 VA (series compensated)
Load of compact fluorescent lamp	16 x 15 W, 16 x 20 W, 14 x 23 W, 18 x 11 W, 22 x 7 W
Load of LED lamps < 2 W	Max. 100 W
Load of LED lamps 2-8 W	Max. 600 W
Load of LED lamps > 8 W	Max. 600 W
Load of sodium-vapour lamp - non-compensated	1 x 400 W, 2 x 250 W
Load of sodium-vapour lamp - parallel compensated	1 x 250 W (32 µF), 1 x 400 W (45 µF), 2 x 150 W (20 µF)
Load of mercury-vapour lamp - parallel compensated	1 x 400 W (25 µF), 1 x 700 W (40 µF), 2 x 250 W (18 µF), 4 x 125 W (10 µF), 6 x 50 W (7 µF)
Load of mercury-vapour lamp - non-compensated	1 x 700 W, 2 x 250 W, 4 x 125 W
Switching capacity - DC	300 mA / 60 V DC, 800 mA / 24 V DC
Power consumption	< 1 VA (standby mode)
Accuracy	± 0.3 seconds/day at 20° C
Time basis	Quartz
Power reserve	6 years, programs saved in EEPROM

Electrical connection	
Device	Flat plug DIN 6.3

Communication type	
Radio signal	Bluetooth 4.0

Operating data	
Channels	1
Manual switch	Automatic mode, Fix ON/OFF, override
Tampering protection	PIN code, sealable
Programs	50 date-dependent programs (holiday/annual program), 50 date-independent programs (weekly program), astro function, OFF, ON, pulse, random OFF, random ON, cycle, free weekday block formation
Programming	Timer, PC, mobile devices
Memory slots	500
Meter	Hour meter with service function

Display and format	
Display lighting	White
Time display format	12 h format (AM/PM), 24 h format (factory setting)
Shortest switching time	ON/OFF 1 minute, pulse 1 second, cycle 1 second
Summer/winter time	Automatic, date-based, can be deactivated
Status display	Switching state display

Ambient conditions	
Temperature (in operation)	-20° C to +55° C

General data	
Number of modules	2
Weight	180 g / 200 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Languages	CS, DA, DE, EN, ES, FI, FR, HU, IT, NL, NO, PL, PT, SV

Compliance with standards	
Certification mark	CE

ANALOGUE TIME SWITCH MODULES

▶ FM

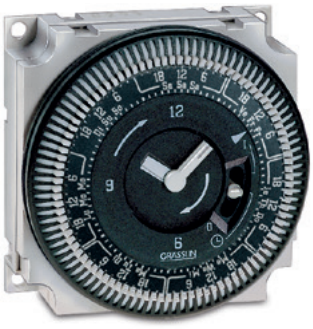
FM/1 STuZH

Item no. 01.76.0088.1

FM/1 QRTuZH

Item no. 02.76.0075.1

FM/1 QRWuZH



Item no. 02.76.0076.1

Product description

FM/1STUZH is a 1-channel module with a synchronous motor. It is designed for a daily program (ON/OFF). The shortest switching time is 15 minutes. The module operates at an operating temperature of – 40 °C to + 85 °C. The modules have a manual switch, Fix ON/OFF.

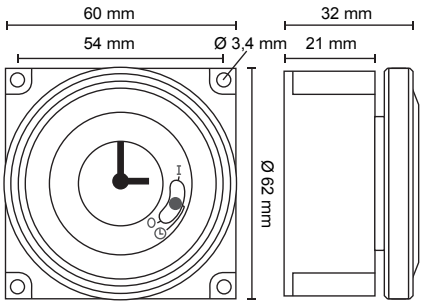
FM/1QRTUZH is a 1-channel module with a quartz motor. It is designed for a daily program (ON/OFF). The shortest switching time is 15 minutes. The modules have a manual switch, Fix ON/OFF. The module has a power reserve of up to 72 hours at an operating temperature of -20 °C to +55 °C.

FM/1QRWUZH is a 1-channel module with a quartz drive for use with a weekly program (ON/OFF). The shortest switching time is 2 hours. It has a manual switch, Fix ON/OFF The module has a power reserve of up to 72 hours at an operating temperature of -20 °C to +55 °C.

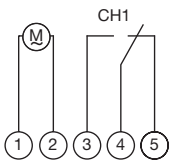
Areas of application

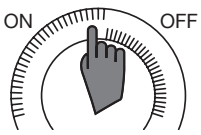
- Household appliance control
- Gas boiler control
- Device, motor and pump control

Dimensional drawings



Circuit diagrams





Technical data

Electrical data		
Supply voltage	AC 220-240 V ± 10 % 50 Hz	01.76.0088.1
	DC 130 V / AC 230 V ± 10 % 50-60 Hz	02.76.0075.1
	DC 130 V / AC 230 V ± 10 % 50-60 Hz	02.76.0076.1
Switching output	Changeover contact, potential-free	
Switching capacity - resistive load	16 A / 250 V AC	
	21 A / 250 V AC (UL)	
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC	
Load of incandescent lamp	1,350 W	
Power consumption	1 VA	01.76.0088.1
	2 VA	02.76.0075.1
	2 VA	02.76.0076.1
Current consumption	0.015 mA (without load)	
Accuracy	Mains synchronised	01.76.0088.1
	± 1.5 seconds/day at 20° C	02.76.0075.1
	± 1.5 seconds/day at 20° C	02.76.0076.1
Power reserve	–	01.76.0088.1
	> 72 hours	02.76.0075.1
	> 72 hours	02.76.0076.1
Electrical connection		
Device	Flat plug DIN 6.3	
Operating data		
Manual switch	Automatic mode, Fix ON/OFF	
Channels	1	
Programs	Daily program (ON/OFF)	01.76.0088.1
	Daily program (ON/OFF)	02.76.0075.1
	Weekly program (ON/OFF)	02.76.0076.1
Display and format		
Shortest switching Time	ON/OFF 15 minutes	01.76.0088.1
	ON/OFF 15 minutes	02.76.0075.1
	ON/OFF 2 hours	02.76.0076.1
Ambient conditions		
Temperature (in operation)	-40° C to +85° C	01.76.0088.1
	-20° C to +55° C	02.76.0075.1
	-20° C to +55° C	02.76.0076.1
General data		
Colour	Grey	
Weight	75 g	
Drive type	Synchronous	01.76.0088.1
	Quartz	02.76.0075.1
	Quartz	02.76.0076.1
Compliance with standards		
Certification mark	CE, VDE, UL	

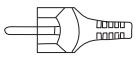
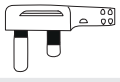
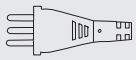
GRÄSSLIN

PLUG-IN TIME SWITCHES - DIGITAL / ANALOGUE

▶ topica – overview

	Plug type	topica 200 S	topica 400 S
			
Item no.	A	16.25.0008.1	16.26.0008.1
EAN code	A	4010940002428	4010940002435
Item no.	F	16.25.0014.1	-
EAN code	F	4010940003531	-
Item no.	G	16.25.0034.1	-
EAN code	G	4010940045579	-
Item no.	L	16.25.0005.1	-
EAN code	L	4010940004309	-
Type		Analogue	Analogue
Time		without pointer	Analogue pointer
Shortest switching time		15 minutes	15 minutes
Power reserve		–	–
Program (switching programs)		Daily program (ON/OFF)	Daily program (ON/OFF)
Memory slots		–	–
Status display		–	–
IP code		–	–
Page		62	62

Plug variants

Plug type	Socket	Plug
A		
F		
G		
L		

Technical data for the various plug variants is available on request.

topica 450 S	topica 410 S	topica 600
		
16.40.0001.1	16.27.0001.1	16.15.0001.1
4010940003906	4010940016241	4010940039387
-	16.27.0004.1	
-	4010940017453	
-	-	-
-	-	-
-	-	16.15.0002.1
-	-	4010940039394
Analogue	Analogue	Digital
Analogue pointer	Analogue pointer	Digital
2 hours	15 minutes	1 minute
–	–	3 years
Weekly program (ON/OFF)	Daily program (ON/OFF)	Daily program (ON/OFF) Weekly program (ON/OFF) Random program
–	–	20
–	–	●
–	IP54	-–
62	**64**	**64**

ANALOGUE PLUG-IN TIME SWITCHES

▶ topica

topica 200 S

Item no.	16.25.0008.1	Plug type A
	16.25.0014.1	Plug type F
	16.25.0034.1	Plug type G
	16.25.0005.1	Plug type L

topica 400 S

Item no.	16.26.0008.1	Plug type A

topica 450 S

Item no.	16.40.0001.1	Plug type A

Product description

topica 200S is an analogue time switch without a pointer for use with a daily program. The switching time is 15 minutes.

topica 400S is an analogue time switch with a pointer for use with a daily program. The switching time is 15 minutes.

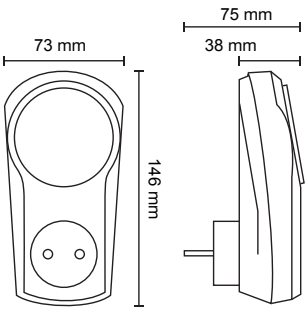
topica 450S is an analogue time switch with a pointer for use with a weekly program. The switching time is 2 hours.

Areas of application

- Household appliance control
- Direct heating system control
- Light control
- Presence simulation

CE

Dimensional drawings



Technical data

Electrical data		
Supply voltage	AC 220-240 V ± 10 % 50 Hz	
Switching capacity - resistive load	16 A / 250 V AC	
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC	
Power consumption	5 VA	
Power reserve	–	

Operating data		
Manual switch	Automatic mode, Fix ON/OFF	
Programs	Daily program (ON/OFF)	topica 200 S
	Daily program (ON/OFF) -	topica 400 S
	Weekly program (ON/OFF)	topica 450 S

Display and format		
Shortest switching Time	ON/OFF 15 minutes	topica 200 S
	ON/OFF 15 minutes	topica 400 S
	ON/OFF 2 hours	topica 450 S
Time	Without pointer	topica 200 S
	Analogue pointer	topica 400 S
	Analogue pointer	topica 450 S

Ambient conditions	
Temperature (in operation)	-10° C to +55° C

General data	
Drive type	Synchronous

Compliance with standards	
Certification mark	CE

ANALOGUE/DIGITAL PLUG-IN TIME SWITCHES

▶ topica

topica 410 S

Item no.	16.27.0001.1	Plug type A
	16.27.0004.1	Plug type F

topica 600

Item no.	16.15.0001.1	Plug type A
	16.15.0002.1	Plug type L

Product description

The topica 410 S time switch is designed for use outdoors as it is water-resistant and, thanks to its robust, weather-resistant design, the device of choice for the light control of lamps exposed to the weather, for example. The clock is designed for a daily program. The shortest switching time is 15 minutes.

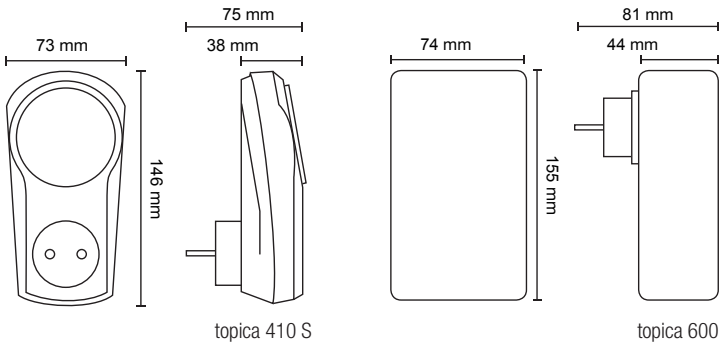
The digital household time switch topica 600 with 20 memory slots is suitable for controlling household appliances and direct heating systems and for light control. In addition to daily and weekly programs, it enables random switching that can be used to simulate the presence of the house's occupants. With its very short switching time of only 1 minute, you can realise a wide variety of highly-flexible switching options. In addition, a manual switch enables manual fix ON/OFF changeover.

Areas of application

- Household appliance control
- Direct heating system control
- Light control
- Presence simulation

CE

Dimensional drawings



topica 410 S topica 600

Technical data

Electrical data		
Supply voltage	AC 220-240 V ± 10 % 50 Hz AC 230 V ± 10 % 50-60 Hz	topica 410 S topica 600
Switching capacity - resistive load	16 A / 250 V AC	
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC 4 A / 250 V AC	topica 410 S topica 600
Power consumption	5 VA	
Power reserve	none - 3 years	topica 410 S topica 600
Operating data		
Manual switch	Automatic mode, Fix ON/OFF	
Programs	Daily program (ON/OFF) Daily program (ON/OFF), weekly program (ON/OFF), Set individual days or weekday block formation, Menu programming with free and Fix programs, random program (1 to 45 min)	topica 410 S topica 600
Memory slots	20	topica 600
Display and format		
Shortest switching Time	ON/OFF 15 minutes ON/OFF 1 minute	topica 410 S topica 600
Time	Analogue pointer Digital	 topica 600
Status display	Switching state display	
Ambient conditions		
Temperature (in operation)	-10° C to +55° C	
General data		
Drive type	 Synchronous	topica 200 S, topica 410 S,
Compliance with standards		
Certification mark	CE	
IP code	IP 54	topica 410

GRÄSSLIN

LIGHT CONTROL
Needs-based and efficient

LIGHT CONTROL

▶ Motion and presence detectors:

▶ Twilight switches:

▶ Staircase lighting timers:

MOTION DETECTORS

▶ talis – overview

	talis MW 180-12-1	talis MW 240-16-1	talis MFM 360-6-1
			
Item no.	18.06.0002.1	18.06.0003.1	18.06.0009.1
EAN code	4010940043957	4010940043964	4010940044022
Sensor type	Passive infrared (PIR)	Passive infrared (PIR)	Passive infrared (PIR)
Supply voltage	230 V~ +/- 10% 50-60 Hz	230 V~ +/- 10% 50/60 Hz	230 V~ +/- 10% 50-60 Hz
Switching capacity	Incandescent lamp load max. 1000 W Halogen lamp load (AC) max. 500 W Fluorescent lamp load max. 200 W (not compensated) LED lamp max. 150 W	Incandescent lamp load max. 2300 W Halogen lamp load (AC) max. 1200 W Halogen lamp load (LV) max. 600 W (conventional) Halogen lamp load (LV) max. 900 W (electronic) Fluorescent lamp load max. 600 W (not compensated) LED lamp max. 400 W Energy-saving lamp max. 400 W (including CFL and PL lamp)	Incandescent lamp load max. 2000 W Halogen lamp load (AC) max. 1000 W Halogen lamp load (LV) max. 600 W (conventional) Halogen lamp load (LV) max. 900 W (electronic) Fluorescent lamp load max. 100 µF (not compensated) LED lamp max. 400 W Energy-saving lamp max. 400 W (including CFL and PL lamp)
Detection range	180°	240° (front) / 360° (ceiling)	360°
Range	approx. 12 m, at an installation height of 2 m	approx. 16 m, at an installation height of 2.5 m	approx. 5-11 m, at an installation height of 2-5 m
Time setting	approx. 5 sec. – 12 min.	approx. 5 sec. – 30 min.	approx. 1 min. – 15 min.
Number of channels	1	1	1
Light value	5 lux (◗) - ∞ lux (☼)	5 lux (◗) - ∞ lux (☼)	approx. 10 lux (◗) - ∞ lux (☼)
Ambient temperature	-20° C to + 45° C	-20° C to + 50° C	0° C to + 45° C
Protection class	II	II	II
IP code	IP 54	IP 55	IP 44
Installation	On-wall mounting	On-wall mounting	Mounting on suspended ceilings
Page	**70**	**72**	**74**

	talis MWF2 200-9-1	talis MWF3 200-9-1	
			
	18.06.0011.1	18.06.0012.1	
	4010940044046	4010940044053	
	Passive infrared (PIR)	Passive infrared (PIR)	
	230 V~ +/- 10% 50-60 Hz	230 V~ +/- 10% 50-60 Hz	
	Incandescent lamp load max. 300 W Halogen lamp load (AC) max. 300 W Halogen lamp load (LV) max. 150 W (conventional) Halogen lamp load (LV) max. 150 W (electronic) Fluorescent lamp load max. 150 W (not compensated) LED lamp max. 100 W Energy-saving lamp max. 150 W (including CFL and PL lamp)	Incandescent lamp load max. 2000 W Halogen lamp load (AC) max. 1000 W Halogen lamp load (LV) max. 600 W (conventional) Halogen lamp load (LV) max. 900 W (electronic) Fluorescent lamp load max. 100 µF (not compensated) LED lamp max. 400 W Energy-saving lamp max. 400 W (including CFL and PL lamp)	
	200°	200°	
	approx. 9 m, at an installation height of 1.2 - 1.5 m	approx. 9 m, at an installation height of 1.2 - 1.5 m	
	approx. 5 sec. – 30 min.	approx. 5 sec. – 30 min.	
	1	1	
	5 lux (◗) - ∞ lux (☼)	5 lux (◗) - ∞ lux (☼)	
	0° C to + 45° C	0° C to + 45° C	
	II	II	
	IP 40	IP 40	
	Flush mounting	Flush mounting	
	76	**76**	

MOTION DETECTORS

▶ talis

talis MW 180-12-1

Item no. 18.06.0002.1

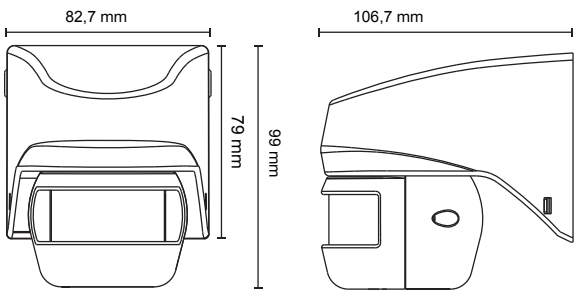
Product description

The outdoor motion detector talis MW 180-12-1 helps illuminate dark outdoor areas when necessary. Installation is easier than ever. The motion detector can be attached to the chosen wall with a screwdriver. Three control knobs are attached on the underside for setting the parameters for detection range, switching time and light value. talis 180-12-1 can be connected to a maximum of 6 sensors, has a detection angle of 180 ° and a range of 12 m at an installation height of 2 m.

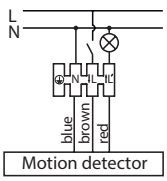
Areas of application

- Stairwells
- Building entrances and corridors
- Reception areas and cellar rooms

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V ± 10 % 50-60 Hz
Load of incandescent lamp	max. 1000 W
Load of halogen lamp	max. 500 W (AC)
Load of LED lamp	max. 150 W
Fluorescent lamps	max. 200 VA (not compensated)
Power consumption (stand-by)	< 1 VA
Parallel switching	max. 6 sensors

Display and format	
Angle of detection	180°
Range	approx. 12 m
Installation height	2 m
Time setting	approx. 5 sec. – 12 min.
Light value	5 lux (☽) - ∞ lux (☼)

Ambient conditions	
Temperature (in operation)	-20° C to + 45° C

General data	
Number of channels	1
Area of application	Indoor / outdoor
Colour	white
Installation	On-wall mounting
Sensor type	Passive infrared (PIR)

Communication type	
Wired	2-wire

Compliance with standards	
IP code	IP 54
Protection class	II, if installed accordingly
Certification mark	CE

GRÄSSLIN

MOTION DETECTORS

▶ talis

talis MW 240-16-1

Item no. 18.06.0003.1

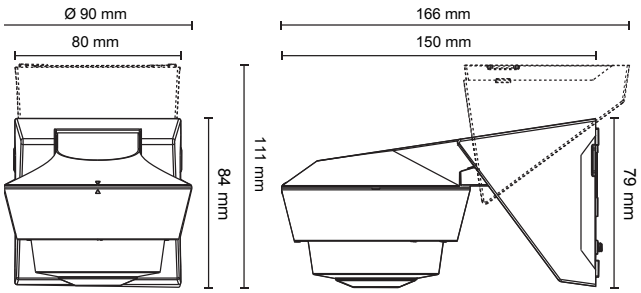
Product description

Often there are very different installation situations in the outdoor area. The motion detector MW 240-16-1 is perfectly equipped for this. Due to its pivoting and rotating head as well as the corner adapter included in delivery as standard, any kind of installation is possible. Whether it is on the ceiling or in the corner. Nothing gets past it thanks to its huge detection range of up to 16 m! Further helpful functions include an alternating holiday program and an optical LED display for detections in the “monitor mode”. talis MW 240-16-1 has a detection angle of 240 ° and a range of 16 m at an installation height of 2.5 m.

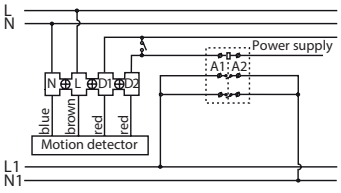
Areas of application

- Stairwells
- Building entrances and corridors
- Reception areas and cellar rooms

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V +/- 10% 50-60 Hz
Load of incandescent lamp	max. 2300 W
Load of halogen lamp	max. 1000 W (AC); max. 1000 VA / 600 W (LV conventional); max. 1000 VA / 900 W (LV electronic)
Load of LED lamp	max. 400 W
Load of energy-saving lamps	max. 400 W; 600 VA; including CFL and PL lamp
Fluorescent lamps	max. 900 VA (compensated); max. 1000 VA (not compensated); max. 600 W (not compensated)
Power consumption (stand-by)	< 1 VA
Parallel switching	max. 6 sensors

Display and format	
Angle of detection	240° (front) / 360° (ceiling)
Range	approx. 16 m
Installation height	2.5 m
Time setting	approx. 5 sec. – 30 min.
Light value	5 lux (◗) - ∞ lux (☼)

Operating data	
Operating mode	Learning function; test mode

Ambient conditions	
Temperature (in operation)	-20° C to + 50° C

General data	
Number of channels	1
Area of application	Indoor / outdoor
Colour	white
Installation	On-wall mounting
Sensor type	Passive infrared (PIR)

Communication type	
Wired	2-wire

Compliance with standards	
IP code	IP 55
Protection class	II, if installed accordingly
Certification mark	CE

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MOTION DETECTORS

▶ talis

talis MFM 360-6-1

Item no. 18.06.0009.1

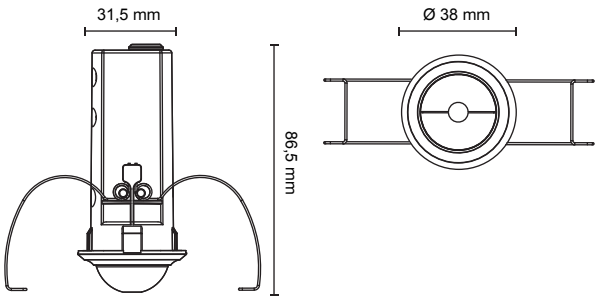
Product description

The talis MFM 360-6-1 motion detector with a detection range of 360° functions according to the principle of passive infrared sensors (PIR sensor). It reliably detects even the smallest movements and switches on the connected load for a selectable period of time, depending on the set light value. This extremely compact motion detector is the ideal solution for small and narrow spaces and can be built into the ceiling to save space. The parameters are adjusted by means of the large and clear knobs. The sensor adapts to the conditions and increases its detection field as needed up to 11 m.

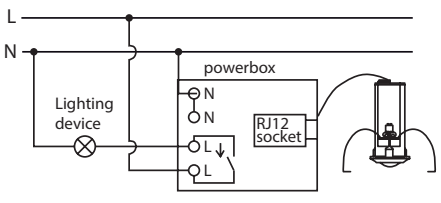
Areas of application

- Small and confined spaces such as toilets or storerooms
- Stairwells
- Building entrances and corridors
- Reception areas and cellar rooms

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V +/- 10% 50-60 Hz
Load of incandescent lamp	max. 2000 W
Load of halogen lamp	max. 1000 W (AC); max. 1000 VA / 600 W (LV conventional); max. 1000 VA / 900 W (LV electronic)
Load of LED lamp	max. 400 W
Load of energy-saving lamps	max. 400 W; 600 VA; including CFL and PL lamp
Fluorescent lamps	5 x 2 x 58 W; 7 x 2 x 36 W; 10 x 1 x 58 W; 12 x 2 x 18 W; 15 x 1 x 36 W; 25 x 1 x 18 W
Power consumption (stand-by)	< 1 VA
Parallel switching	max. 6 sensors

Display and format	
Angle of detection	360°
Range	6 m
Installation height	2.5 m
Time setting	approx. 1 min. – 15 min.
Light value	approx. 10 lux (◗) - ∞ lux (☼)

Operating data	
Operating mode	Test mode

Ambient conditions	
Temperature (in operation)	0° C to + 45° C

General data	
Number of channels	1
Area of application	Indoors
Colour	white
Installation	Suspended ceiling
Sensor type	Passive infrared (PIR)

Communication type	
Wired	2-wire

Compliance with standards	
IP code	IP 44
Protection class	II, if installed accordingly
Certification mark	CE

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MOTION DETECTORS

▶ talis

talis MWF2 200-9-1
talis MWF3 200-9-1

Item no. 18.06.0011.1 2-wire
18.06.0012.1 3-wire

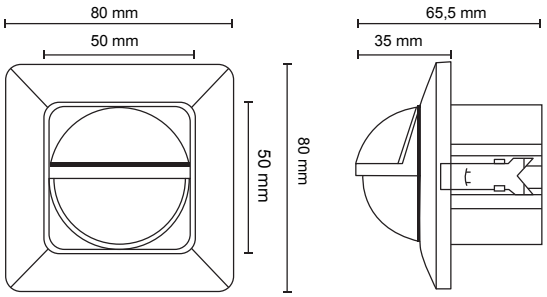
Product description

Flush-mounted sockets can be found everywhere in buildings. So it is good if they can be used intelligently. The 2-wire/3-wire motion detector MWF2 200-9-1/MWF3 200-9-1 can be inserted in standard flush-mounted sockets with a diameter of 68 mm. With its enormous range of up to 9 m at an installation height of 1.5 m, even distant flush-mounted sockets in office spaces can be used.

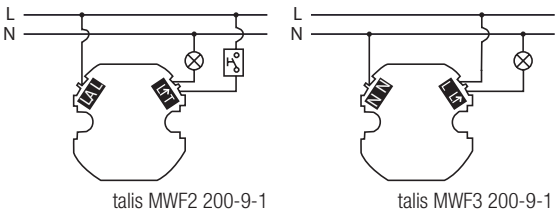
Areas of application

- Corridors
- Hotel rooms
- Classrooms
- Work and conference rooms

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 230 V +/- 10% 50-60 Hz	
Load of incandescent lamp	max. 300 W	18.06.0011.1
Load of halogen lamp	max. 300 W (AC); max. 150 W (LV conventional); max. 150 W (LV electronic)	
Load of LED lamp	max. 100 W	
Load of energy-saving lamps	max. 150 VA; max. 150 W; including CFL and PL lamp	
Fluorescent lamps	max. 150 VA; max. 150 W	
Power consumption (stand-by)	< 1 VA	
Parallel switching	max. 6 sensors	
Load of incandescent lamp	max. 2000 W	18.06.0012.1
Load of halogen lamp	max. 1000 W (AC); max. 1000 VA / 600 W (LV conventional); max. 1000 VA / 900 W (LV electronic)	
Load of LED lamp	max. 400 W	
Load of energy-saving lamp	max. 400 X; 600 VA; including CFL and PL lamp	
Fluorescent lamps	max. 900 VA (compensated); 5 x 2 x 58 W; 7 x 2 x 36 W; 10 x 1 x 58 W; 12 x 2 x 18 W; 15 x 1 x 36 W; 25 x 1 x 18 W	
Power consumption (stand-by)	< 1 VA	
Parallel switching	max. 6 sensors	
Display and format		
Angle of detection	200°	
Range	approx. 9 m	
Installation height	approx. 1.5 m	
Time setting	approx. 5 sec. – 30 min.	
Light value	10 lux (◗) - ∞ lux (☼)	
Operating data		
Operating mode	Learning function; test mode	
Ambient conditions		
Temperature (in operation)	0° C to + 45° C	
General data		
Number of channels	1	
Area of application	Indoors	
Colour	white	
Installation	Flush mounting	
Sensor type	Passive infrared (PIR)	
Communication type		
Wired	2-wire	18.06.0011.1
Wired	3-wire	18.06.0012.1
Compliance with standards		
IP code	IP 40	
Protection class	II, if installed accordingly	
Certification mark	CE	

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PRESENCE DETECTORS

▶ talis II – overview

	talis II PS 360-8-1	talis II P 360-8-1 talis II P 360-8-2	talis II P 360-20-1 talis II P 360-20-2
			
Item no.	18.06.0015.1	18.06.0016.1 (1 CH) 18.06.0017.1 (2 CH)	18.06.0018.1 (1 CH) 18.06.0019.1 (2 CH)
EAN code	4010940045968	4010940045975 (1 CH) 4010940045982 (2 CH)	4010940045999 - 1 channel 4010940046002 - 2 channel
Sensor type	Passive infrared (PIR)	Passive infrared (PIR)	Passive infrared (PIR)
Supply voltage	230 V~ +/- 10% 50-60 Hz	230 V~ +/- 10% 50-60 Hz	230 V~ +/- 10% 50-60 Hz
Switching capacity	Incandescent lamp load max. 2000 W Halogen lamp load (AC) max. 1000 W Halogen lamp load (LV) max. 600 W (conventional) Halogen lamp load (LV) max. 900 W (electronic) Fluorescent lamp load max. 100 µF (not compensated) LED lamp max. 400 W Energy-saving lamp max. 400 W (including CFL and PL lamp)	Incandescent lamp load max. 2000 W Halogen lamp load (AC) max. 1000 W Halogen lamp load (LV) max. 600 W (conventional) Halogen lamp load (LV) max. 900 W (electronic) Fluorescent lamp load max. 100 µF (not compensated) LED lamp max. 400 W Energy-saving lamp max. 400 W (including CFL and PL lamp)	Incandescent lamp load max. 2000 W Halogen lamp load (AC) max. 1000 W Halogen lamp load (LV) max. 600 W (conventional) Halogen lamp load (LV) max. 900 W (electronic) Fluorescent lamp load max. 100 µF (not compensated) LED lamp max. 400 W Energy-saving lamp max. 400 W (including CFL and PL lamp)
Detection range	360°	360°	360°
Range	approx. 8 m, at an installation height of 2.5 m	approx. 8 m, at an installation height of 2.5 m	approx. Ø 20 m at an installation height of 2.5 m
Time setting	approx. 5 sec. – 30 min.; 1s; test	CH 1 approx. 5 sec. - 30 min.; 1s; test, CH 2 approx. 10 sec. - 60 min.	CH 1 approx. 5 sec. - 30 min.; 1s; test, CH 2 approx. 10 sec. - 60 min.
Number of channels	1	1 / 2	1 / 2
Light value	approx. 10 - ☼ (∞) lux; 👁 = “learning”	approx. 10 - ☼ (∞) lux; 👁 = “learning”	approx. 10 - ☼ (∞) lux; 👁 = “learning”
Ambient temperature	0° C to + 45° C	0° C to + 45° C	0° C to + 45° C
Protection class	II	II	II
IP code	IP 40	IP 44	IP 44
Installation	On-wall mounting	Mounting on suspended ceilings	Mounting on suspended ceilings
Optional accessories			
Remote control	-	-	-
On-wall socket	-	√ (07.10.0003.1)	√ (07.10.0003.1)
Ceiling installation set	-	-	-
Page	80	82	84

talis II P 360-24-1i	talis II PHB 360-20-1i	talis II PC 40-5-1i	talis II P 360-10-1 HF talis II P 360-10-2 HF
			
18.06.0024.1	18.06.0020.1	18.06.0021.1	18.06.0022.1 (1 CH) 18.06.0023.1 (2 CH)
4010940046101	4010940046019	4010940046026	4010940045999 (1 CH) 4010940046040 (2 CH)
Passive infrared (PIR)	Passive infrared (PIR)	Passive infrared (PIR)	Microwaves 5.8 GHz
230 V~ +/- 10% 50-60 Hz	230 V~ +/- 10% 50-60 Hz	230 V~ +/- 10% 50-60 Hz	230 V~ +/- 10% 50-60 Hz
Incandescent lamp load max. 2200 W Halogen lamp load (AC) max. 2200 W Halogen lamp load (LV) max. 1000 W (conventional) Fluorescent lamp load max. 140 µF (not compensated) LED lamp max. 600 W Energy-saving lamp max. 600 W (including CFL and PL lamp)	Incandescent lamp load max. 2200 W Halogen lamp load (AC) max. 2200 W Halogen lamp load (LV) max. 1000 W (conventional) Fluorescent lamp load max. 140 µF (not compensated) LED lamp max. 600 W Energy-saving lamp max. 600 W (including CFL and PL lamp)	Incandescent lamp load max. 2200 W Halogen lamp load (AC) max. 2200 W Halogen lamp load (LV) max. 1000 W (conventional) Fluorescent lamp load max. 140 µF (not compensated) LED lamp max. 600 W Energy-saving lamp max. 600 W (including CFL and PL lamp)	Incandescent lamp load max. 2000 W Halogen lamp load (AC) max. 1000 W Halogen lamp load (LV) max. 600 W (conventional) Halogen lamp load (LV) max. 900 W (electronic) Fluorescent lamp load max. 100 µF (not compensated) LED lamp max. 400 W Energy-saving lamp max. 400 W (including CFL and PL lamp)
360°	360°	360°	360°
approx. Ø 24 m at an installation height of 2.5 m	approx. Ø 20 m at an installation height of 12 m	approx. 5 x 40 m, at an installation height of 2.5 m	approx. Ø 10 m at an installation height of 2.5 m
approx. 30 sec. – 30 min.	approx. 30 sec. – 30 min.; 1s; test	approx. 30 sec. – 30 min.; 1s; test	CH 1 approx. 5 sec. - 30 min.; 1s; test, CH 2 approx. 10 sec. - 60 min.
1	1	1	1 / 2
approx. 10 - ☼ (∞) lux; 👁 = "learning"	approx. 10 - ☼ (∞) lux; 👁 = "learning"	approx. 10 - ☼ (∞) lux; 👁 = "learning"	approx. 10 - ☼ (∞) lux; 👁 = "learning"
-20° C to + 45° C	-20° C to + 45° C	-20° C to + 45° C	-20° C to + 50° C
II	II	II	II
IP 20, IP 54 for on-wall mounting	IP 20, IP 54 for on-wall mounting	IP 20, IP 54 for on-wall mounting	IP 54
Flush mounting	Flush mounting	Flush mounting	Mounting on suspended ceilings
√ (07.10.0006.1)	√ (07.10.0006.1)	√ (07.10.0006.1)	-
√ (07.10.0004.1)	√ (07.10.0004.1)	√ (07.10.0004.1)	√ (07.10.0003.1)
√ (07.10.0005.1)	√ (07.10.0005.1)	√ (07.10.0005.1)	-
86	88	90	92

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PRESENCE DETECTORS

▶ talis II

talis II PS 360-8-1

Item no. 18.06.0015.1

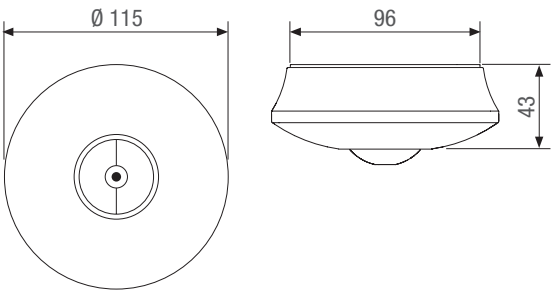
Product description

The talis II PS 360-8-1 presence detector operates with passive infrared technology (PIR). Within a detection range of 8 m/360 ° it detects the smallest movements and automatically activates the connected load in dependence on the detection of the persons present and on the ambient brightness. After the fast and easy installation, the detection range, run-on time and light value can be adjusted by means of three easy-to-reach knobs, which then disappear behind the cover.

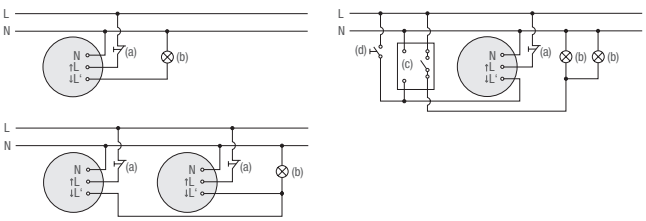
Areas of application

- Classrooms
- Copy room
- Garage
- Hotel rooms
- Indoor lighting
- Light control
- Sport halls
- Stairwells
- Toilets
- Warehouse
- Work and conference rooms

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V +/- 10% 50-60 Hz
Load of incandescent lamp	max. 2000 W
Load of halogen lamp	1000 W (AC); 1000 VA / 900 W (low voltage electronic); 1000 VA / 600 W (low voltage conventional)
Load of compact fluorescent lamp	max. 100 µF (not compensated)
Load of LED lamp	max. 400 W
Load of energy-saving lamps	400 W; 600 VA; including CFL and PL lamp
Power consumption (stand-by)	< 1 VA
Parallel switching	max. 6 sensors

Display and format	
Angle of detection	360°
Range for small movements	Ø 3 m
Range in case of direct approach	Ø 4 m
Range for passing by sideways	Ø 8 m
Installation height	2.5 m
Time setting	approx. 5 sec. – 30 min.; 1s; test
Light value	approx. 10 - ☼ (∞) lux; 👁 = “learning”

Operating data	
Operating mode	Pulse function; test mode; learning function

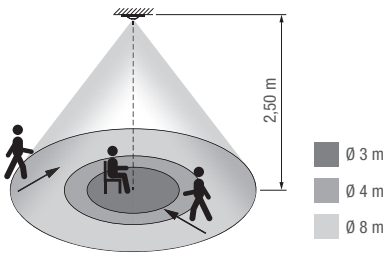
Ambient conditions	
Temperature (in operation)	0° C to + 45° C

General data	
Number of channels	1
Area of application	Indoor / outdoor
Colour	white
Installation	Ceiling; on-wall mounting
Sensor type	Passive infrared (PIR)

Communication type	
Wired	2-wire

Compliance with standards	
IP code	IP 40
Protection class	II, if installed accordingly
Certification mark	CE

Detection range / range



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PRESENCE DETECTORS

▶ talis II

talis II P 360-8-1
talis II P 360-8-2

Item no. 18.06.0016.1 1-channel
18.06.0017.1 2-channel

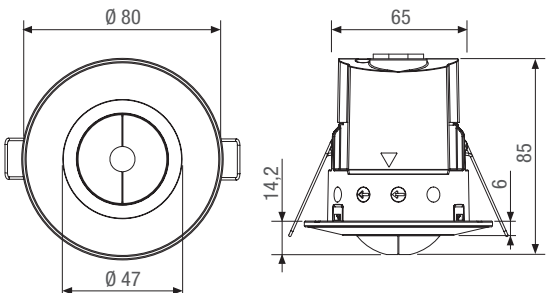
Product description

talis II P 360-8-1 operates on the basis of infrared technology (PIR) and is designed for flush mounting, but it can also be converted to an on-wall mounting version if necessary with the talis II SM Box 10 accessory. It can be integrated entirely unobtrusively into any surrounding design. The settings are performed after installation by means of the knobs on the side of the presence detector, which are subsequently hidden behind the cover. This device is highly energy efficient due to regular light balancing and an offline function when there is sufficient daylight. talis II P 360-8-2 is the 2-channel version of the presence detector. Like the 360-8-1 it works on the basis of passive infrared technology (PIR). The second channel can be used to connect another load such as air conditioning or heating, for example. This presence detector is also designed for flush mounting, but it can be converted for on-wall mounting with the accessory talis II SM Box 10.

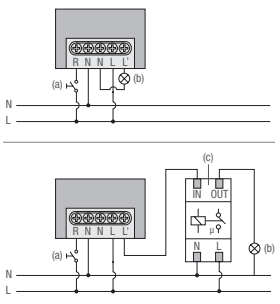
Areas of application

- ▶ Building entrances and corridors
- ▶ Classrooms
- ▶ Indoor/outdoor lighting
- ▶ Hotel rooms
- ▶ Indoor applications
- ▶ Work and meeting spaces
- ▶ Stairwells

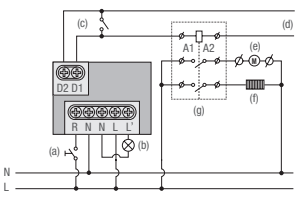
Dimensional drawings



Circuit diagrams



talis II P 360-8-1

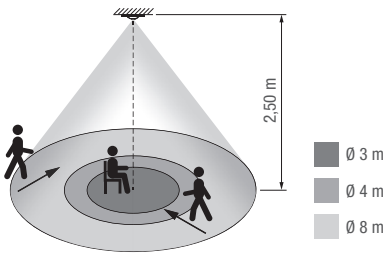


talis II P 360-8-2

Technical data

Electrical data		
Supply voltage	AC 230 V +/- 10% 50-60 Hz	
Load of incandescent lamp	max. 2000 W	
Load of halogen lamp	1000 W (AC); 1000 VA / 900 W (low voltage electronic); 1000 VA / 600 W (low voltage conventional)	
Load of compact fluorescent lamp	max. 100 µF (not compensated)	
Load of LED lamp	max. 400 W	
Load of energy-saving lamps	400 W; 600 VA; including CFL and PL lamp	
Fluorescent lamps	12 x 2 x 18 W; 25 x 1 x 18 W; 5 x 2 x 58 W; 10 x 1 x 58 W; 7 x 2 x 36 W; 15 x 1 x 36 W	
Power consumption (stand-by)	<1 VA	
Parallel switching	max. 6 sensors	
Display and format		
Angle of detection	360°	
Range for small movements	Ø 3 m	
Range in case of direct approach	Ø 4 m	
Range for passing by sideways	Ø 8 m	
Installation height	2.5 m	
Time setting	CH 1 approx. 5 sec. - 30 min.; ⎍1s⎍; test, CH 2 approx. 10 sec. - 60 min.	18.06.0016.1 18.06.0017.1
Light value	approx. 10 - ☼ (∞) lux; 👁 = “learning”	
Operating data		
Operating mode	Pulse function; test mode; learning function	
Ambient conditions		
Temperature (in operation)	0° C to + 45° C	
General data		
Number of channels	1 CH 2 CH	18.06.0016.1 18.06.0017.1
Area of application	Indoor / outdoor	
Colour	white	
Installation	Ceiling; on-wall mounting (only with accessories); suspended ceiling	
Sensor type	Passive infrared (PIR)	
Communication type		
Wired	2-wire	
Compliance with standards		
IP code	IP 44	
Protection class	II, if installed accordingly	
Certification mark	CE	

Detection range / range



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PRESENCE DETECTORS

▶ talis II

talis II P 360-20-1
talis II P 360-20-2

Item no. 18.06.0018.1 1-channel
18.06.0019.1 2-channel

Product description

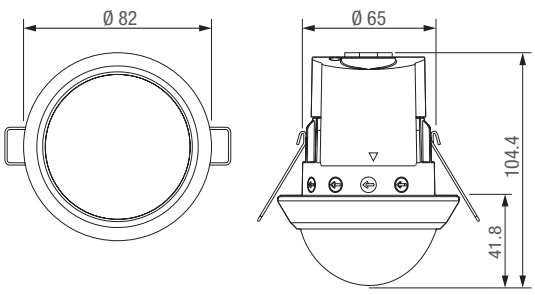
This device has a detection range of 20 m/360°, which is greater than that of the standard model talis II P 360-8-1. It is designed for installation on the ceiling, but can also be used for on-wall mounting with the help of the accessory talis II SM Box 10. The presence detector is highly sensitive and is especially suitable for larger rooms.

It operates with passive infrared technology, detects the smallest movements and automatically activates the connected load in dependence on the detection of the persons present and on the ambient brightness. This presence detector is highly energy efficient due to regular light balancing and an offline function when there is sufficient daylight.

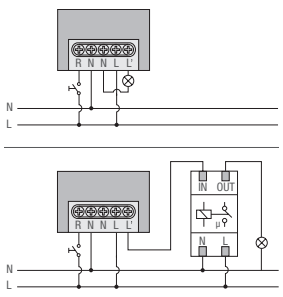
Areas of application

- Building entrances and corridors
- Classrooms
- Indoor/outdoor lighting
- Hotel rooms
- Indoor applications
- Work and meeting spaces
- Stairwells

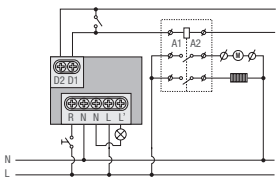
Dimensional drawings



Circuit diagrams



talis II P 360-20-1

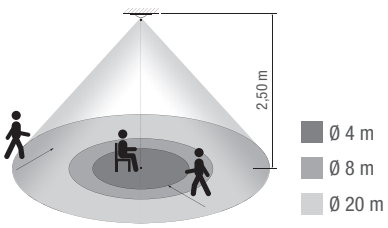


talis II P 360-20-2

Technical data

Electrical data		
Supply voltage	AC 230 V +/- 10% 50-60 Hz	
Load of incandescent lamp	max. 2000 W	
Load of halogen lamp	1000 W (AC); 1000 VA / 900 W (low voltage electronic); 1000 VA / 600 W (low voltage conventional)	
Load of compact fluorescent lamp	max. 100 µF (not compensated)	
Load of LED lamp	max. 400 W	
Load of energy-saving lamps	400 W; 600 VA; including CFL and PL lamp	
Power consumption (stand-by)	<1 VA	
Parallel switching	max. 6 sensors	
Display and format		
Angle of detection	360°	
Range for small movements	Ø 4 m	
Range in case of direct approach	Ø 8 m	
Range for passing by sideways	Ø 20 m	
Installation height	2.5 m	
Time setting	CH 1 approx. 5 sec. - 30 min.; ⎍1s⎍; test, CH 2 approx. 10 sec. - 60 min.	18.06.0018.1 18.06.0019.1
Light value	approx. 10 - ☼ (∞) lux; 👁 = “learning”	
Operating data		
Operating mode	Pulse function; test mode; learning function	
Ambient conditions		
Temperature (in operation)	0° C to + 45° C	
General data		
Number of channels	1 CH 2 CH	18.06.0018.1 18.06.0019.1
Area of application	Indoor / outdoor	
Colour	white	
Installation	Ceiling; on-wall mounting (only with accessories); suspended ceiling	
Sensor type	Passive infrared (PIR)	
Communication type		
Wired	2-wire	
Optional accessories		
On-wall socket	√ (07.10.0003.1)	
Compliance with standards		
IP code	IP 44	
Protection class	II, if installed accordingly	
Certification mark	CE	

Detection range / range



GRÄSSLIN

PRESENCE DETECTORS

▶ talis II

talis II PS 360-24-1i

Item no. 18.06.0024.1

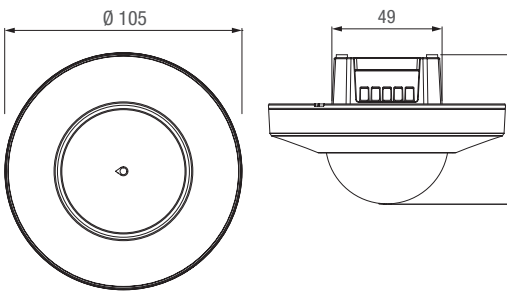
Product description

The PIR presence detector talis II P 360-24-1i is suitable for on-wall or flush mounting and for installation in suspended ceilings. With its sensor it records the smallest movements (e.g. at the work station) within a diameter of 24 m/360 °. Like all PIR devices it has an integrated light sensor. It continuously measures current lux values and switches off the connected load if the surroundings are bright enough, regardless of the set run-on time. This ensures that the lighting only lights up when necessary. A special convenience factor is the remote control, which is a convenient way to adjust the presence detector. This device is highly energy efficient due to regular light balancing and an offline function when there is sufficient daylight.

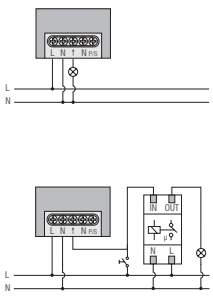
Areas of application

- Classrooms
- Copy room
- Garage
- Hotel rooms
- Indoor lighting
- Sports halls
- Stairwells

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V +/- 10% 50-60 Hz
Load of incandescent lamp	max. 2200 W
Load of halogen lamp	2200 W (AC); 1000 W (LV conventional)
Load of compact fluorescent lamp	max. 140 µF (not compensated)
Load of LED lamp	max. 600 W
Load of energy-saving lamps	max. 600 W; including CFL and PL lamp
Power consumption (stand-by)	<1 VA
Parallel switching	max. 10 sensors

Display and format	
Angle of detection	360°
Range for small movements	Ø 4 m
Range in case of direct approach	Ø 6 m
Range for passing by sideways	Ø 24 m
Installation height	2.5 m
Time setting	approx. 30 sec. – 30 min.
Light value	approx. 10 - ☼ (∞) lux; 👁 = “learning”

Operating data	
Operating mode	Test mode; learning function

Ambient conditions	
Temperature (in operation)	-20° C to + 45° C

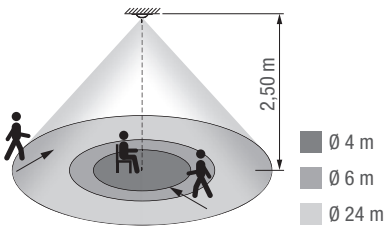
General data	
Number of channels	1
Area of application	Indoor / outdoor
Colour	white
Installation	Flush mounting; on-wall mounting (only with accessories) Ceiling installation (only with accessories)
Sensor type	Passive infrared (PIR)

Communication type	
Wired	2-wire

Optional accessories	
Remote control	√ (07.10.0006.1)
On-wall socket	√ (07.10.0003.1)
Ceiling installation set	√ (07.10.0005.1)

Compliance with standards	
IP code	IP 20, IP 54 with on-wall socket
Protection class	II, if installed accordingly
Certification mark	CE

Detection range / range



GRÄSSLIN

PRESENCE DETECTORS

▶ talis II

talis II PHB 360-20-1i

Item no. 18.06.0020.1

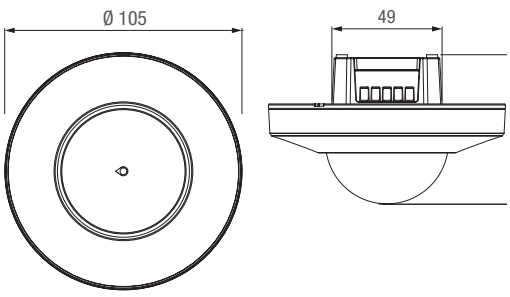
Product description

For some applications, a presence detector mounted at greater height has a clearer view. For these cases, Grässlin has developed the talis II PHB 360-20-1i. It monitors a diameter of 20 m from a height of up to 12 m – so it is perfect for large halls, high bay warehouses and similar. Its passive infrared sensor automatically activates the connected load in dependence on the detection of the persons present and on the ambient brightness. In this case, the remote control is not a matter of convenience: it is essential if settings are to be adjustable. This device is highly energy efficient due to regular light balancing and an offline function when there is sufficient daylight.

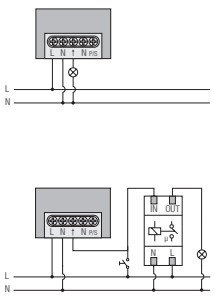
Areas of application

- Entrance halls
- Entrance areas
- Garage
- Indoor/outdoor lighting
- Light control
- Outdoor applications
- Parking lots
- Sports halls
- Warehouses

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V +/- 10% 50-60 Hz
Load of incandescent lamp	max. 2200 W
Load of halogen lamp	max. 2200 W (AC); 1000 W (LV conventional)
Load of compact fluorescent lamp	max. 140 µF (not compensated)
Load of LED lamp	max. 600 W
Load of energy-saving lamps	max. 600 W; including CFL and PL lamp
Power consumption (stand-by)	<1 VA
Parallel switching	max. 10 sensors

Display and format	
Angle of detection	360°
Range in case of direct approach	Ø 10 m
Range for passing by sideways	Ø 20 m
Installation height	12 m
Time setting	approx. 30 sec. – 30 min.; ⎍Ts⎍; test
Light value	approx. 10 - ☼ (∞) lux; 👁 = “learning”

Operating data	
Operating mode	Pulse function; test mode; learning function

Ambient conditions	
Temperature (in operation)	-20° C to + 45° C

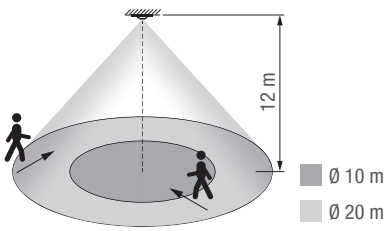
General data	
Number of channels	1
Area of application	Indoor / outdoor
Colour	white
Installation	Suspended ceiling; ceiling; on-wall mounting (only with accessories) Ceiling installation (only with accessories)
Sensor type	Passive infrared (PIR)

Communication type	
Wired	2-wire

Optional accessories	
Remote control	√ (07.10.0006.1)
On-wall socket	√ (07.10.0004.1)
Ceiling installation set	√ (07.10.0005.1)

Compliance with standards	
IP code	IP 20, IP 54 with on-wall socket
Protection class	II, if installed accordingly
Certification mark	CE

Detection range / range



PRESENCE DETECTORS

▶ talis II

talis II PC 40-5-1i

Item no. 18.06.0021.1

Product description

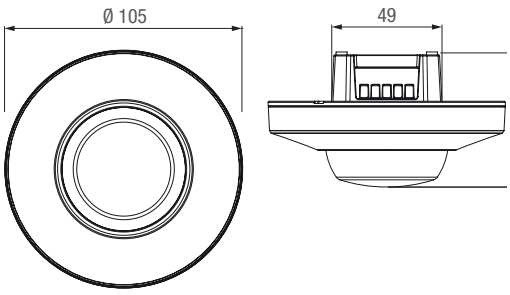
The PIR presence detector talis II PC 40-5-1i is the device of choice when it comes to lighting long corridors in hotels or office buildings, for example. It covers a range of 40 m in length and 5 m in width. It automatically activates the connected electric load in dependence on the detection of the persons present and on the ambient brightness. The remote control is a convenient way to adjust the devices.

Even if changes should become necessary, nobody needs to climb a ladder. The talis II PC 40-5-1i is suitable for on-wall mounting, for flush mounting and for installation in suspended ceilings.

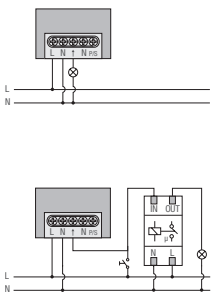
Areas of application

- Building entrances and corridors
- Corridor lighting
- Indoor/outdoor lighting
- Warehouse

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V +/- 10% 50-60 Hz
Load of incandescent lamp	max. 2200 W
Load of halogen lamp	max. 2200 W (AC); 1000 W (LV conventional)
Load of compact fluorescent lamp	max. 140 µF (not compensated)
Load of LED lamp	max. 600 W
Load of energy-saving lamps	max. 600 W; including CFL and PL lamp
Power consumption (stand-by)	<1 VA
Parallel switching	max. 10 sensors

Display and format	
Angle of detection	360°
Range in case of direct approach	3 x 16 m
Range for passing by sideways	5 x 40 m
Installation height	2.5 m
Time setting	approx. 30 sec. – 30 min.; ⎍Ts⎍; test
Light value	approx. 10 - ☼ (∞) lux; 👁 = “learning”

Operating data	
Operating mode	Pulse function; test mode; learning function

Ambient conditions	
Temperature (in operation)	-20° C to + 45° C

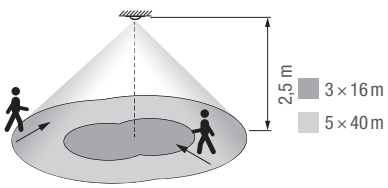
General data	
Number of channels	1
Area of application	Indoor / outdoor
Colour	white
Installation	Ceiling; flush mounting; on-wall mounting (only with accessories); ceiling installation (only with accessories)
Sensor type	Passive infrared (PIR)

Communication type	
Wired	2-wire

Optional accessories	
Remote control	√ (07.10.0006.1)
On-wall socket	√ (07.10.0004.1)
Ceiling installation set	√ (07.10.0005.1)

Compliance with standards	
IP code	IP 20, IP 54 with on-wall socket
Protection class	II, if installed accordingly
Certification mark	CE

Detection range / range



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PRESENCE DETECTORS

▶ talis II

talis II P 360-10-1 HF
talis II P 360-10-2 HF

Item no. 18.06.0022.1 1-channel
18.06.0023.1 2-channel

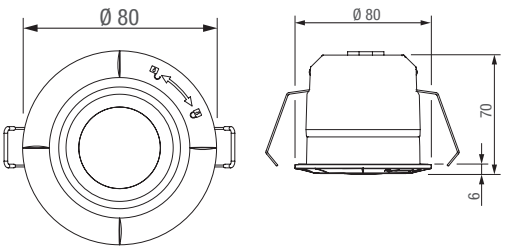
Product description

These presence detectors in the 1 or 2-channel versions can virtually see through walls. They operate with high frequency technology (5.8 GHz) and are therefore based on the Doppler radar principle. Thanks to their great sensitivity, they record even minimal hand movements during motion detection. And, unlike with PIR presence detectors, they have no “blind spots” in the room: They achieve an enormous range, both radially and tangentially, regardless of the direction of movement. Their ability to look through glass, bricks and wood means they can be installed invisibly. If detection in specific regions is not desired, the presence detector can be set accordingly. The high frequency presence detector is not sensitive to temperature and works reliably even in difficult climate conditions. This device is highly energy efficient due to regular light balancing and an offline function when there is sufficient daylight.

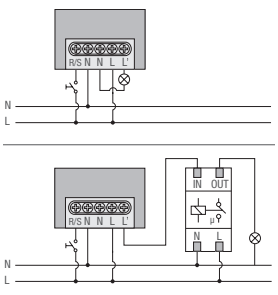
Areas of application

- Building entrances and corridors
- Classrooms
- Copy room
- Garage
- Hotel rooms
- Indoor lighting
- Light control
- Living area
- Stairwells
- Storage spaces
- Toilets
- Work and conference rooms

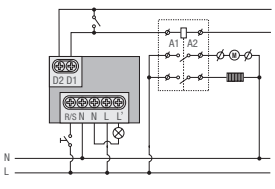
Dimensional drawings



Circuit diagrams



talis II P 360-10-1HF

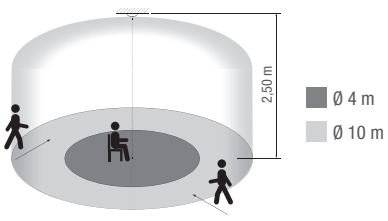


talis II P 360-10-2HF

Technical data

Electrical data		
Supply voltage	AC 230 V +/- 10% 50-60 Hz	
Load of incandescent lamp	max. 2000 W	
Load of halogen lamp	1000 W (AC); max. 900 W (LV electronic); max. 600 W (LV conventional)	
Load of compact fluorescent lamp	max. 100 µF (not compensated)	
Load of LED lamp	max. 400 W	
Load of energy-saving lamps	400 W; including CFL and PL lamp	
Fluorescent lamps	12 x 2 x 18 W; 25 x 1 x 18 W; 5 x 2 x 58 W; 10 x 1 x 58 W; 7 x 2 x 36 W; 15 x 1 x 36 W	
Power consumption (stand-by)	<1 VA	
Parallel switching	max. 6 sensors	
Display and format		
Angle of detection	360°	
Range for small movements	Ø 4 m	
Range in case of direct approach	Ø 10 m	
Range for passing by sideways	Ø 10 m	
Installation height	2.5 m	
Time setting	CH 1 approx. 5 sec. - 30 min.; ⎍1s⎍; test, CH 2 approx. 10 sec. - 60 min.	18.06.0022.1 18.06.0023.1
Light value	approx. 10 - ☼ (∞) lux; 👁 = “learning”	
Operating data		
Operating mode	Pulse function; test mode; learning function	
Ambient conditions		
Temperature (in operation)	-20° C to + 50° C	
General data		
Number of channels	1 CH 2 CH	18.06.0022.1 18.06.0023.1
Area of application	Indoors	
Colour	white	
Installation	Wall; ceiling; on-wall mounting (only with accessories); suspended ceiling	
Sensor type	High frequency (HF)	
Communication type		
Wired	2-wire	
Optional accessories		
On-wall socket	√ (07.10.0003.1)	
Compliance with standards		
IP code	IP 54	
Protection class	II, if installed accordingly	
Certification mark	CE	

Detection range / range



TWILIGHT SWITCHES

▶ turnus – overview

	turnus 501 A	turnus 501 E	turnus 200
			
Item no.	18.18.0013.1	18.18.0014.1	18.17.0001.1
EAN code	4010940046118	4010940046125	4010940018986
Channels	1	1	1
Photosensitivity	2 - 500 lux	2 - 500 lux	2 - 2,000 lux
Switching delay	ON/OFF 100 seconds	ON/OFF 100 seconds	ON/OFF 20 - 120 seconds
Brightness sensor	Surface mounting	Flush mounting	Integrated
Ambient temperature	-20° C to +55° C -30° C to +70° C (sensor)	-20° C to +55° C -30° C to +70° C (sensor)	-35° C to +60° C
IP code	IP20 IP65 (sensor)	IP20 IP65 (sensor)	IP54
Page	**96**	**96**	**98**

STAIRCASE TIME SWITCHES

▶ trealux – overview

	trealux 210	trealux 510
		
Item no.	18.13.0009.1	18.13.0016.1
EAN code	4010940024789	4010940039127
Switching capacity AC	2,300 W	3,600 W
Switching capacity EVG	500 VA	1,000 VA
Switching capacity VVG	1,000 VA	1,500 VA
Switching capacity LED	750 W	1,200 W
Glow lamp load	Max. 50 buttons x 1 mA	Max. 150 buttons x 1 mA
Operating mode	1 x resettable	3 x resettable
Service function	–	1 hour
Advance warning	–	–
Page	**100**	**100**

TWILIGHT SWITCHES

▶ turnus

turnus 501 A

Item no. 18.18.0013.1

turnus 501 E

Item no. 18.18.0014.1

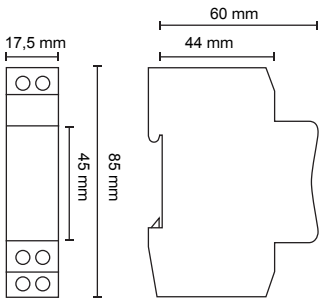
Product description

These 1-channel twilight switches ensure noticeably more energy efficiency. They control the lighting in dependence on daylight. That means that the lighting adapts to the actual needs. This saves energy and contributes towards safety. Twilight switches provide precise control according to light intensity through an external brightness sensor. They are ideally suited for use in shop windows, for illuminated billboards, and for parking lot and street lighting.

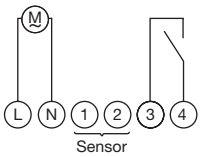
Areas of application

- Shop window lighting
- Parking lot lighting
- Roller shutter control
- Advertising lighting
- Street lighting
- Blinds

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 110-230 V ± 10 % 50-60 Hz
Load of incandescent lamp	2,000 W
Switching capacity - DC	150 mA / 220 V DC, 300 mA / 60 V DC, 800 mA / 24 V DC
Hysteresis	1.3 x photosensitivity
Switching output	Normally open contact, potential-free
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC
Power consumption	5 VA

Electrical connection	
Wire length of sensor	max. 30 m
Wire cross-section of sensor	min. 0.75 mm^2
Device	Captive screw terminals

Operating data	
Operating mode	ON/OFF - switching delay 100 seconds
Channels	1
Tampering protection	-

Ambient conditions	
Temperature (in operation)	-20° C to +55° C -30° C to +70° C (sensor)

General data	
Weight	75 g
Installation	DIN rail

Compliance with standards	
IP code	IP20 IP65 (sensor)
Certification mark	CE

Contents		
Sensors	Brightness sensor for mounting 07.02.0005.1 included in delivery	18.180013.1
	Brightness sensor for installation 07.02.0006.1 included in delivery	18.180014.1

TWILIGHT SWITCHES

▶ turnus

turnus 200

Item no. 18.17.0001.1

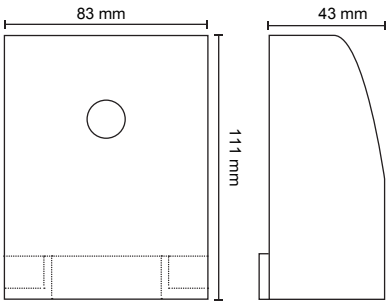
Product description

The turnus 200 twilight switch has the same functions as turnus 501 A and E, but it has a different design. Through its daylight-dependent lighting control it ensures greater energy efficiency and safety. The turnus 200 is characterised by easy and flexible installation due to surface mounting as well as a simple design.

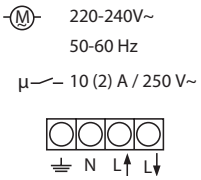
Areas of application

- Shop window lighting
- Parking lot lighting
- Roller shutter control
- Advertising lighting
- Street lighting
- Blinds

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 220-240 V 50-60 Hz
Switching output	Normally open contact, not potential-free
Switching capacity - resistive load	10 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	2 A / 250 V AC
Load of incandescent/halogen lamp	1,200 W
Power consumption	6 VA
Hysteresis	1.3 x photosensitivity

Electrical connection	
Device	Captive screw terminals

Operating data	
Operating mode	ON/OFF - switching delay 20 - 120 seconds
Channels	1
Tampering protection	-

Display and format	
Photosensitivity	2 - 2,000 lux

Ambient conditions	
Temperature (in operation)	-35° C to +60° C

General data	
Weight	175 g
Light sensor	Integrated
Installation	Surface mounting

Compliance with standards	
IP code	IP54
Certification mark	CE

STAIRCASE TIME SWITCHES

▶ trealux

trealux 210

Item no. 18.13.0009.1

trealux 510

Item no. 18.13.0016.1

Product description

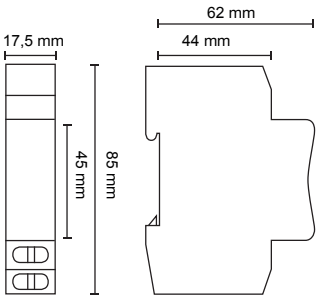
The staircase time switch trealux 210 is suitable for DIN-rail installation. It ensures that lamps indoors and outdoors do not remain switched on unnecessarily and therefore helps save energy. It is easy to install and therefore versatile in use.

The stairwell time switch trealux 510 has the same tasks as version 210. It is also installed in a control cabinet and controls lamps in the outdoor and indoor areas. It has a higher switching capacity than version 210 and is resettable 3 x. It also has a service function that lasts for one hour – also referred to as the “cleaning function”.

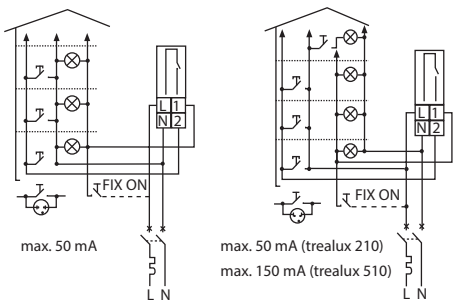
Areas of application

- Ventilation
- Stairwells
- Cellars
- Entrance areas
- Toilets

Dimensional drawings



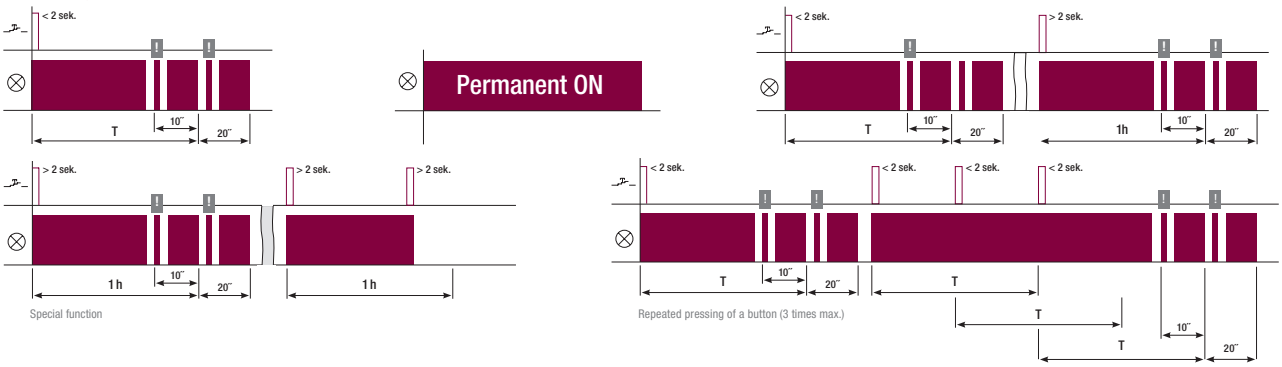
Circuit diagrams



Technical data

Electrical data			
Supply voltage	AC 230 V ± 10 % 50 Hz		
Switching output	Normally open contact		
Switching capacity - resistive load	16 A / 250 V AC		
Switching capacity – inductive load cos. phi 0.6	10 A / 250 V AC		
Power consumption	0.5 W		
Load of incandescent/halogen lamp	2,300 VA		18.13.0009.1
	3,600 VA		18.13.0016.1
Load of fluorescent lamps	20 x 58 W (parallel compensated)		18.13.0009.1
	40 x 58 W (series compensated)		18.13.0009.1
	20 x 2 x 58 W (dual switching)		18.13.0009.1
	3,600 VA (dual switching)		18.13.0016.1
	3,600 VA (series compensated)		18.13.0016.1
	3,600 VA (parallel compensated)		18.13.0016.1
Load of LED lamp	750 W - 18.13.0009.1	1.200 W	18.13.0016.1
EVG	500 VA - 18.13.0009.1	1,000 VA	18.13.0016.1
VVG	1000 W - 18.13.0009.1	1500 VA	18.13.0016.1
CFL (EVG)	15 x 7 W - 18.13.0009.1	34 x 7 W	18.13.0016.1
	12 x 11 W - 18.13.0009.1	27 x 11 W	18.13.0016.1
	11 x 15 W - 18.13.0009.1	24 x 15 W	18.13.0016.1
	10 x 20 W - 18.13.0009.1	22 x 23 W	18.13.0016.1
Electrical connection			
Device	Screw terminal with wire protection max. 4 mm^2		
	Captive screw terminals		
Operating data			
Operating mode	Immediately resettable		
	1 x resettable		18.13.0009.1
	3 x resettable		18.13.0016.1
Manual switch	Fix ON		
Display and format			
Time setting	30 seconds - 20 minutes		18.13.0009.1
	30 seconds - 20 minutes, 1 hour (service function)		18.13.0016.1
Status display	–		18.13.0009.1
	Advance warning		18.13.0016.1
Ambient conditions			
Temperature (in operation)	-10° C to +55° C		
General data			
Installation	DIN rail		
Compliance with standards			
IP code	IP20		
Protection class	II, when installed accordingly		
Certification mark	CE, VDE		

Switching behaviour



GRÄSSLIN

TEMPERATURE CONTROL

Feel good at any time of year

TEMPERATURE CONTROL

▶ Time switches:

▶ Thermostats and room thermostats:

▶ Programmable room thermostats:

▶ GSM UMTS remote switches

MULTI-TARIFF TIME SWITCHES

▶ ECOsave – overview

ECOsave

Item no.	04.33.0020.1	
EAN	4010940044633	
Switching output	Changeover contact, potential-free, opening width < 3 mm	
Accuracy	± 2.5 seconds/day at 20° C	
Power reserve	> 72 hours	
Device	Screw terminal with wire protection 1.5 mm² to 4 mm²	
Tampering protection	Plastic cover	
Programs	Daily program	
Resolution	15 minutes	
Shortest switching time	Manual boost 15, 30, 60, 120 minutes Program time 15 minutes	
Time	Analogue	
Installation	On-wall	
Protection class	I, if installed accordingly	

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COUNTDOWN TIME SWITCHES

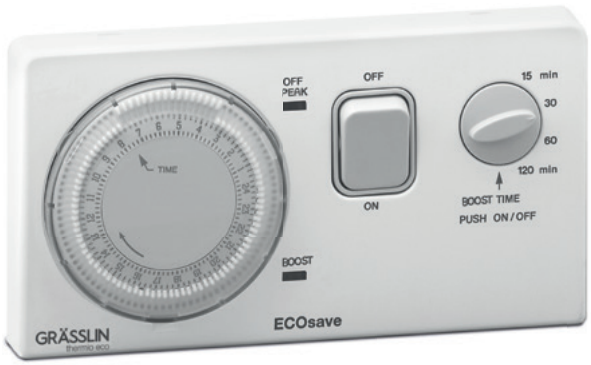
▶ thermio™ eco – overview

	thermio™ eco B2B	thermio™ eco B4B
		
Item no.	04.08.0001.1	04.08.0002.1
EAN code	4010940045043	4010940045050
Switching output	Normally open contact, not potential-free	Normally open contact, not potential-free
Switching capacity - resistive load	5 A/ 250 V AC	5 A/ 250 V AC
Switching capacity – inductive load cos. phi 0.6	5 A/ 250 V AC	5 A/ 250 V AC
Load of halogen lamp	1,000 W (AC)	1,000 W (AC)
Load of fluorescent lamps	500 W	500 W
Power consumption	1 VA	1 VA
Accuracy	± 1.5 seconds/day at 20° C	± 1.5 seconds/day at 20° C
Device	Screw terminal with wire protection max. 2.5 mm^2	Screw terminal with wire protection max. 2.5 mm^2–
Operating mode	Boost mode	Boost mode
Manual switch	Boost Time	Boost time
Channels	1	1
Status display	Operating mode, Switching state display	Operating mode, Switching state display
Backlight	white / blue	white / blue
Humidity (in operation)	20 % to 60 % relative humidity, condensation-free	20 % to 60 % relative humidity, condensation-free
Temperature (in operation)	±0° C to +45° C	±0° C to +45° C
Shortest switching time	Boost 15, 30, 60, 120 minutes, ON/OFF 15 minutes	Boost 1, 2, 3, 4 hours, ON/OFF: 1 hour
Installation	Flush mounting BS 4662, on-wall BS 5733	Flush mounting BS 4662, on-wall BS 5733
Page	**108**	**108**

MULTI-TARIFF TIME SWITCHES

▶ thermio™ eco

thermio™ ECOsave



Item no. 04.33.0020.1

Product description

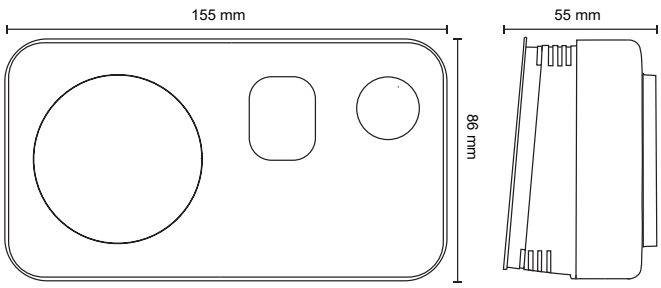
ECOsave is a mechanical multi-tariff time switch that enables the individual setting of the heating period within 24 hours in quarter-hour increments in order to avoid expensive peak times. ECOsave features a boost function that provides hot water within 15, 30, 60 or 120 minutes.

The time switch enables the control of electric heating elements with a capacity of up to 3,000 watts. ECOsave features a simple and modern design with a flat profile and is easy to install on flush-mounted sockets.

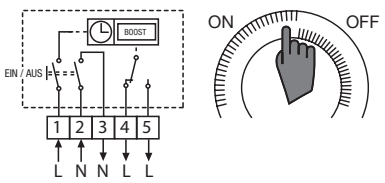
Areas of application

- Single immersion heaters to 3,000 watts
- Twin immersion heaters to 3,000 watts
- Dual immersion heaters to 3,000 watts
- Cylinders

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V ± 10 % 50 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm
Switching capacity - resistive load	13 A (3,000 W)
Accuracy	± 2.5 seconds /day at 20°C
Power reserve	> 72 hours

Electrical connection	
Device	Screw terminal with wire protection 1.5 mm^2 to 4 mm^2

Operating data	
Manual switch	Boost time ON/OFF (double-pole switch)
Channels	1
Tampering protection	Plastic cover
Programs	Boost, Daily program

Display and format	
Shortest switching time	Boost 15, 30, 60, 120 minutes Program time 15 minutes
Time	Analogue pointer
Status display	Operating mode, Status display for heating

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-10° C to +35° C

General data	
Colour	White/grey
Installation	On-wall

Compliance with standards	
IP code	IP20
Protection class	I, if installed accordingly
Certification mark	CE

COUNTDOWN TIME SWITCHES

▶ thermio™ eco

thermio™ eco B2B

Item no. 04.08.0001.1

thermio™ eco B4B

Item no. 18.13.0016.1

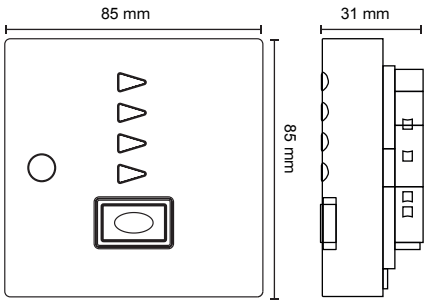
Product description

Push & Forget: Probably the most accurate description of countdown time switches B2B and B4B from the thermio™ eco product line. These models offer four boost times for a variety of applications that you can read easily thanks to the large and illuminated LEDs. The time switches switch off automatically and thus help save energy and money.

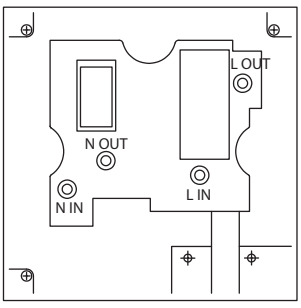
Areas of application

- Boilers
- Electric radiators and heating elements
- Oil radiators
- Electric towel rails
- Hotplates
- Fan heaters
- Lighting (no discharge lamps)
- Single immersion heaters to 3,000 watts

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 230 V ± 10 % 50 Hz	
Switching output	Normally open contact, not potential-free	
Switching capacity - resistive load	13 A (3,000 W)	
Switching capacity – inductive load cos. phi 0.6	5 A/ 250 V AC	
Load of halogen lamp	1,000 W (AC)	
Load of fluorescent lamps	500 W	
Power consumption	1 VA	
Accuracy	± 1.5 seconds/day at 20° C	

Electrical connection		
Device	Screw terminal with wire protection max. 2.5 mm^2	

Operating data		
Operating mode	Boost mode	
Manual switch	Boost time	
Channels	1	

Display and format		
Status display	Operation mode, switching state display	
Shortest switching time	Boost 15, 30, 60, 120 minutes, ON/OFF 15 minutes	04.08.0001.1
	Boost 1, 2, 3, 4 hours, ON/OFF 1 hour	04.08.0002.1
Backlight	white / blue	

Ambient conditions		
Humidity (in operation)	20 % to 60 % relative humidity, condensation-free	
Temperature (in operation)	±0° C to +45° C	

General data		
Colour	White	
Weight	114 g	
Material	High-temperature resistant, self-extinguishing thermoplastics	
Installation	Flush mounting BS 4662, on-wall BS 5733	

Compliance with standards		
IP code	IP20	
Protection class	II, when installed accordingly	
Certification mark	CE	

HEATING TIME SWITCHES

▶ thermio™ eco – overview

	thermio™ eco B1	thermio™ eco B2
		
Item no.	04.07.0008.1	04.07.0009.1
EAN code	4010940045470	4010940045487
Supply voltage	AC 220-240 V ± 10 % 50 Hz	AC 220-240 V ± 10 % 50 Hz
Switching capacity - resistive load	5 A/ 250 V AC	5 A/ 250 V AC
Switching capacity – inductive load cos. phi 0.6	2 A / 250 V AC	2 A / 250 V AC
Electrical connection of the device	Screw terminal with wire protection, max. 4 mm²	Screw terminal with wire protection, max. 4 mm²
Manual switch	ON/OFF/AUTO	ON/OFF/AUTO
Channels	1	2
Programs	Daily program	Daily program
Time display format	24-hour format	24-hour format
Shortest switching time	ON/OFF 15 minutes Program time 15 minutes	ON/OFF 15 minutes Program time 15 minutes
Summer/winter time	Manual summer/winter time adjustment	Manual summer/winter Time adjustment
Time	Analogue	Analogue
Page	**112**	**112**

IMMERSION HEATER TIME SWITCHES

▶ thermio™ eco – overview

	thermio™ eco BI1S	thermio™ eco BI7S	thermio™ eco CI7
			
Item no.	04.33.0023.1	04.33.0024.1	04.33.0025.1
EAN code	401094045142	4010940045159	4010940045166
Switching capacity - resistive load	16 A / 250 V AC	16 A / 250 V AC	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC	8 A / 250 V AC	4 A / 250 V AC
Load of incandescent/ halogen lamp	1,300 VA	1,300 VA	1,000 VA
Switching capacity - DC	–	–	3 A / 60 V DC 10 A / 24 V DC
Power consumption	1 VA	1 VA	4.4 VA
Accuracy	Mains synchronised	Mains synchronised	±1 second /day at 20°C
Time basis	Synchronous (network frequency)	Synchronous (network frequency)	Synchronous (network frequency)
Power reserve	–	–	3 years
Battery	–	–	CR2032
Programs	Daily Program	Weekly Program	7 days 5-2 days 1-7 days Free weekday block formation Daily Program Weekly Program
Memory spaces	–	–	20
Time display format	24-hour format	24-hour format	12-hour format 24-hour format
Shortest switching time	ON/OFF 15 minutes Program Time 15 minutes	ON/OFF 2 Hours Program Time 2 Hours	ON/OFF 1 minute Program Time 1 minute
Time	Analogue	Analogue	Digital
Status display	–	–	Switching state display
Page	**114**	**114**	**116**

ANALOGUE HEATING TIME SWITCHES

▶ thermio™ eco

thermio™ eco B1

Item no. 04.33.0020.1

thermio™ eco B2

Item no. 04.33.0020.1

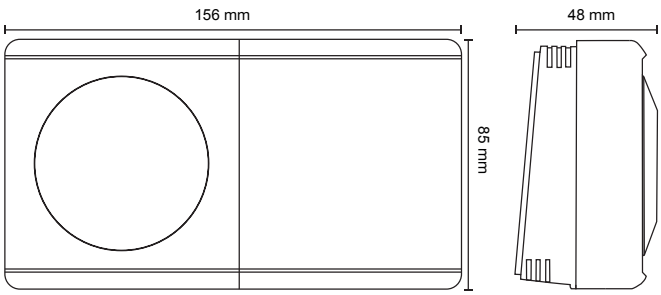
Product description

The B1 is an analogue 1-channel time switch, and the B2 is an analogue 2-channel time switch. Daily programming with a very short switching time of 15 minutes is very simple using the tappets of the mechanical timers. You can switch between the operating modes automatic, Fix ON and OFF using a hand switch. The time switches have a simple and modern design with a flat profile and are easy to install thanks to a universal mounting plate.

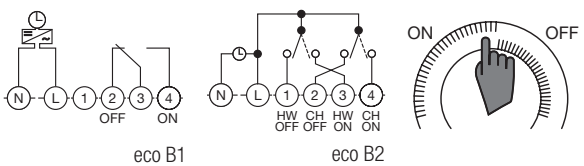
Areas of application

- Boiler & combination boilers
- Domestic heating systems for heating and water heating
- Pump-controlled central heating systems
- Gravity heating systems

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 220-240 V 50 Hz	
Switching output	Changeover contact, potential-free	
Switching capacity - resistive load	5 A/ 250 V AC	
Switching capacity – inductive load cos. phi 0.6	2 A / 250 V AC	
Time basis	Synchronous (network frequency)	
Electrical connection		
Device	Screw terminal with wire protection max. 4 mm^2	
Operating data		
Manual switch	ON/OFF/AUTO	
Programs	Daily Program	
Display and format		
Shortest switching Time	Programme Time 15 minutes	
Status display	Status display for heating	
Channels	1	04.07.0008.1
	2	04.07.0009.1
Ambient conditions		
Humidity (in operation)	10% to 90% relative humidity, condensation-free	
Temperature (in operation)	-10° C to +50° C	
General data		
Colour	White/grey	
Installation	On-wall	
Compliance with standards		
IP code	IP20	
Protection class	II, when installed accordingly	
Certification mark	CE, Energy Saving Trust	

ANALOGUE IMMERSION HEATER TIME SWITCHES

▶ thermio™ eco

thermio™ eco BI1S

Item no. 04.33.0023.1

thermio™ eco BI7S

Item no. 04.33.0024.1

Product description

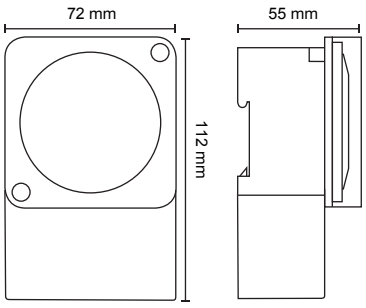
The BI1S and BI7S are mechanical multi-tariff single-channel time switches with a daily or weekly program. They allow individual adjustment of the heating period within 24 hours, every 15 minutes or every day in 24 hours, as well as every 2 hours in order to avoid expensive peak hours.

They control the operation of electric immersion heaters with a capacity of up to 3,000 watts. You can switch between the operating modes automatic, Fix ON and OFF using a hand switch.

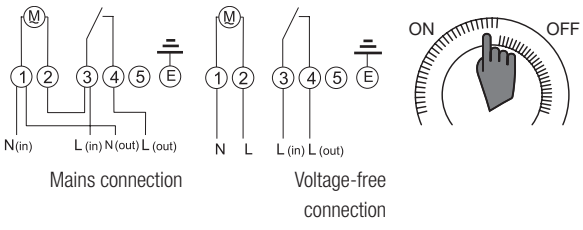
Areas of application

- Boilers
- Single immersion heaters to 3,000 watts
- Heating systems
- Pumps
- Motors
- Machines
- Universally usable

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 230 V ± 10 % 50-60 Hz	
Switching output	Changeover contact, potential-free, opening width < 3 mm	
Switching capacity - resistive load	16 A / 250 V AC	
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC	
Load of incandescent/halogen lamp	1,300 VA	
Power consumption	1 VA	
Accuracy	Mains synchronised	
Time basis	Synchronous (network frequency)	

Electrical connection		
Device	Screw terminal with wire protection max. 2.5 mm^2	

Operating data		
Manual switch	ON/OFF/AUTO	
Channels	1	
Programs	Daily Program	04.33.0023.1
	Weekly program	04.33.0024.1
Tampering protection	Sealable	

Display and format		
Time	Analogue pointer	
Shortest switching time	ON/OFF 15 minutes, program time 15 minutes	04.33.0023.1
	ON/OFF 2 hours, program time 2 hours	04.33.0024.1

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-20° C to +85° C

General data	
Colour	White/grey
Weight	160 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	On-wall

Compliance with standards	
Protection class	I, if installed accordingly
Certification mark	CE

DIGITAL IMMERSION HEATER TIME SWITCHES

▶ thermio™ eco

thermio™ eco CI7

Item no. 04.33.0025.1

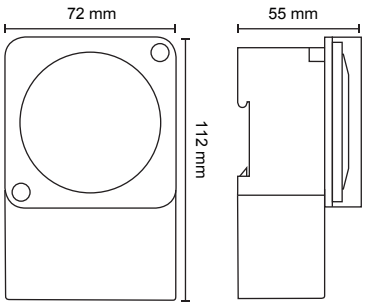
Product description

The CI7 is a digital multi-tariff single-channel time switch with 20 memory slots and 3 different time periods (daily, 5 days plus 2 or 7 day programming) or free block formation. The very short switching time of just one minute enables need-based control of, for example, an immersion heater. You can switch between the operating modes automatic, Fix ON and OFF using a hand switch.

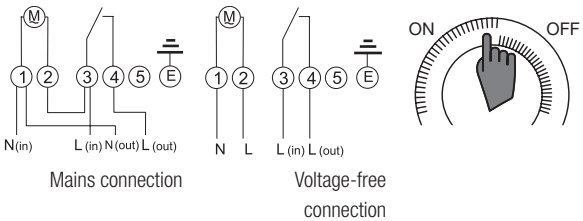
Areas of application

- Single immersion heaters to 3,000 watts
- Heating systems
- Pumps
- Motors
- Machines
- Universally usable

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	4 A / 250 V AC
Load of incandescent/halogen lamp	1,000 VA
Switching capacity - DC	1 A / 100 V DC 3 A / 60 V DC 10 A / 24 V DC
Power consumption	4.4 VA
Accuracy	± 1 second /day at 20°C
Time basis	Synchronous (network frequency)
Power reserve	3 years
Battery	CR2032

Electrical connection	
Device	Screw terminal with wire protection max. 2.5 mm^2

Operating data	
Manual switch	ON/OFF/AUTO
Channels	1
Tampering protection	Sealable
Programs	7 days, 5-2 days, 1-7 days, free block formation, Daily program Weekly program
Memory slots	20

Display and format	
Time display format	12-hour format (AM/PM) 24-hour format
Shortest switching Time	ON/OFF 1 minute, Program Time 1 minute
Summer/winter Time	Manual summer/winter Time adjustment
Time	Digital
Status display	Switching state display

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-10° C to +55° C

General data	
Colour	White/grey
Weight	170 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	On-wall

Compliance with standards	
Protection class	I, if installed accordingly
Certification mark	CE

ANALOGUE UNIVERSAL TIME SWITCHES

▶ ECOsave – overview

	thermio™ eco BG1S	thermio™ eco BG7S	thermio™ eco BG1Q
			
Item no.	04.36.0009.1	04.36.0010.1	04.36.0011.1
EAN code	4010940045104	4010940045111	4010940045128
Supply voltage	AC 230 V ± 10 % 50-60 Hz	AC 230 V ± 10 % 50-60 Hz	DC 24-36 V 45-60 Hz
Switching capacity - resistive load	16 A / 250 V AC	16 A / 250 V AC	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC	8 A / 250 V AC	8 A / 250 V AC
Load of incandescent/ halogen lamp	1,300 VA	1,300 VA	1,300 VA
Power consumption	1 VA	1 VA	2 VA
Accuracy	Mains synchronised	Mains synchronised	± 1.5 seconds/day at 20° C
Time basis	Synchronous (network frequency)	Synchronous (network frequency)	Quartz
Power reserve	–	–	> 72 hours
Programs	Daily Program	Weekly program	Daily program
Time display format	24-hour format	24-hour format	24-hour format
Shortest switching time	ON/OFF 15 minutes Program Time 15 minutes	ON/OFF 2 hours Program Time 2 hours	ON/OFF 15 minutes Program time 15 minutes
Time	Analogue	Analogue	Analogue
Page	**120**	**120**	**120**

DIGITAL UNIVERSAL TIME SWITCHES

▶ ECOsave – overview

thermio™ eco CG7

Item no.	04.36.0012.1	
EAN code	4010940045128	
Supply voltage	AC 230 V ± 10 % 50-60 Hz	
Switching capacity - resistive load	16 A / 250 V AC	
Switching capacity – inductive load cos. phi 0.6	4 A / 250 V AC	
Load of incandescent/halogen lamp	1,000 VA	
Switching capacity - DC	1 A / 100 V DC 3 A / 60 V DC 10 A / 24 V DC	
Power consumption	4.4 VA	
Accuracy	±1 second /day at 20°C	
Time basis	Synchronous (network frequency)	
Power reserve	3 years	
Battery	CR2032	
Programs	7 days 5-2 days 1-7 days Free weekday block formation Daily Program Weekly Program	
Memory slots	20	
Time display format	12-hour format 24-hour format	
Shortest switching time	ON/OFF 1 minute Program time 1 minute	
Time	Digital	
Status display	Switching state display	

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GRÄSSLIN

ANALOGUE UNIVERSAL TIME SWITCHES

▶ thermio™ eco

thermio™ eco BG1S
thermio™ eco BG1Q

Item no. 04.36.0009.1 thermio™ eco BG1S
04.36.0011.1 thermio™ eco BG1Q

thermio™ eco BG7S

Item no. 04.36.0010.1 thermio™ eco BG7S

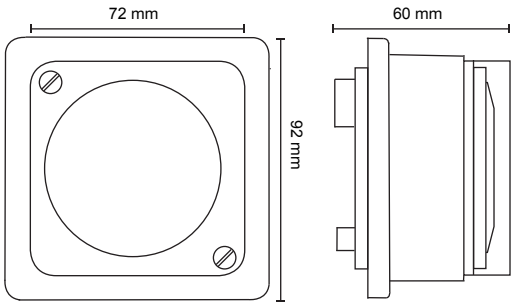
Product description

BG1S and BG7S are analogue single-channel universal time switches. The BG1Q is an analogue single-channel quartz time switch. Daily or weekly programming with a very short switching time of 15 minutes or two hours, respectively, is very simple using the tappets of the mechanical time switches. You can switch between the operating modes automatic, Fix ON and OFF using a hand switch.

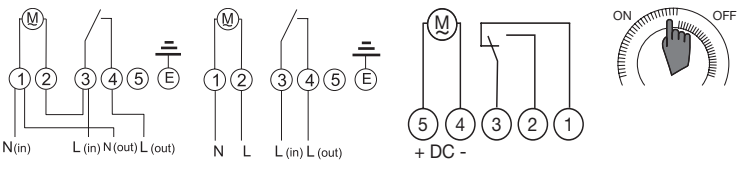
Areas of application

- Single immersion heaters to 3,000 watts
- Heating systems
- Pumps
- Motors
- Machines
- Universally usable

Dimensional drawings



Circuit diagrams



Mains connection BG1S. BG7S

Voltage-free connection BG1S, BG7S

BG1Q

Technical data

Electrical data		
Supply voltage	AC 230 V ± 10 % 50-60 Hz	
	DC 24-36 V 45-60 Hz	04.36.0011.1
Power consumption	1 VA	
	2 VA	04.36.0011.1
Accuracy	Mains synchronised,	
	± 1.5 second /day at 20°C	04.36.0011.1
Time basis	Synchronous (network frequency),	
	Quartz	04.36.0011.1
Power reserve	–	
	72 hours	04.36.0011.1
Switching output	Changeover contact, potential-free, opening width < 3 mm	
Switching capacity - resistive load	16 A / 250 V AC	
Switching capacity – inductive load cos. phi 0.6	8 A / 250 V AC	
Switching capacity - minimal	100 mA / 20 V AC/DC	
Load of incandescent/halogen lamp	1,300 VA	
Electrical connection		
Device	Screw terminal with wire protection max. 2.5 mm^2	
Operating data		
Manual switch	ON/OFF/AUTO	
Channels	1	
Tampering protection	Sealable	
Programs	Daily program	
	Weekly program	04.36.0010.1
Display and format		
Time	Analogue pointer	
Shortest switching time	ON/OFF 15 minutes, program time 15 minutes	
	ON/OFF 2 hours, program time 2 hours	04.36.0010.1
Ambient conditions		
Humidity (in operation)	10% to 90% relative humidity, condensation-free	
Temperature (in operation)	-20° C to +85° C	
General data		
Colour	White/grey	
Material	High-temperature resistant, self-extinguishing thermoplastics	
Installation	Flush mounting BS 4662,	
	on-wall BS 5733	
Weight	160 g	
	170 g	04.36.0011.1
Compliance with standards		
Protection class	I, if installed accordingly	
Certification mark	CE	

DIGITAL UNIVERSAL TIME SWITCHES

▶ thermio™ eco

thermio™ eco CG7

Item no. 04.33.0025.1

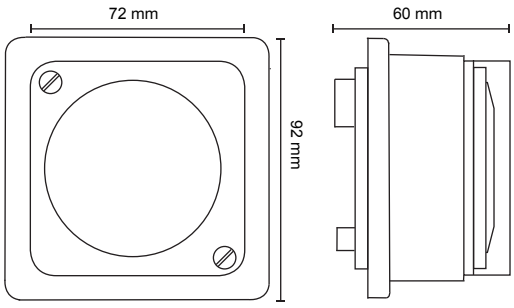
Product description

The CG7 is a digital 1-channel time switch with 20 memory slots and 3 different time periods (daily, 5 days plus 2 or 7 day programming) or free block formation. The very short switching time of just one minute enables demand-oriented control of, for example, a heating system. You can switch between the operating modes automatic, Fix ON and OFF using a hand switch.

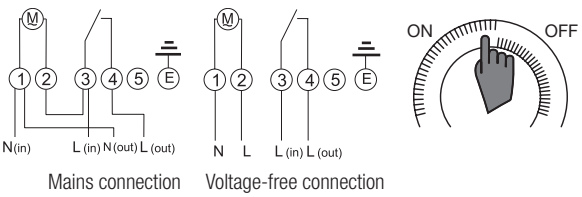
Areas of application

- Single immersion heaters to 3,000 watts
- Heating systems
- Pumps
- Motors
- Machines
- Universally usable

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 230 V ± 10 % 50-60 Hz
Switching output	Changeover contact, potential-free, opening width < 3 mm
Switching capacity - resistive load	16 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	4 A / 250 V AC
Load of incandescent/halogen lamp	1,000 VA
Switching capacity - DC	1 A / 100 V DC 3 A / 60 V DC 10 A / 24 V DC
Power consumption	4.4 VA
Accuracy	± 1 second /day at 20°C
Time basis	Synchronous (network frequency)
Power reserve	3 years
Battery	CR2032

Electrical connection	
Device	Screw terminal with wire protection max. 2.5 mm^2

Operating data	
Manual switch	ON/OFF/AUTO
Channels	1
Tampering protection	Sealable
Programs	7 days, 5-2 days, 1-7 days, free block formation, daily program, weekly program
Memory slots	20

Display and format	
Time display format	12-hour format (AM/PM), 24-hour format
Shortest switching time	ON/OFF 1 minute, program time 1 minute
Summer/winter time	Manual summer/winter Time adjustment
Time	Digital
Status display	Switching state display

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-10° C to +55° C

General data	
Colour	White/grey
Weight	170 g
Material	High-temperature resistant, self-extinguishing thermoplastics
Installation	Flush mounting BS 4662, on-wall BS 5733

Compliance with standards	
Protection class	I, if installed accordingly
Certification mark	CE

ROOM THERMOSTATS

▶ thermio™ essential – overview

	thermio™ essential B	thermio™ essential C
		
Item no.	04.46.0020.1	04.46.0021.1
EAN code	4010940044961	4010940044978
Supply voltage / equipment operating voltage	AC 24 V to 230 V 50-60 Hz	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
Battery life	–	2 years (depending on the switching frequency)
Switching capacity - resistive load	6 A / 250 V AC	8 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	3 A / 250 V AC	3 A / 250 V AC
Control type	Two-point (ON/OFF)	Two-point (ON/OFF)
Control range	+10 °C to +30 °C	+5 °C to +35 °C
Heating cycle	–	–
Electrical connection of the device	Screw terminal with wire protection, max. 2.5 mm²	Screw terminal with wire protection, max. 2.5 mm²
Radio signal	–	–
Range	–	–
Operating mode	Temperature reduction mode/AUTO	Reset function Temperature reduction mode/AUTO
Manual switch	ON/OFF	ON/OFF
Tampering protection	–	–
Offset	–	–
Programs	–	–
Programming	–	–
Resolution	Temperature setpoint 1°C	Room temperature: 0.1°C, temperature setpoint 0.2 °C
Shortest switching Time	–	–
Display update	–	every 60 seconds
Room temperature display	–	±0 °C to +50 °C
Summer/winter Time	–	–
Time	–	–
Status display	–	Battery condition Status display for heating
ErP class	I	I
ErP function	ON/OFF room thermostat	ON/OFF room thermostat
ErP contribution to seasonal space heating energy efficiency	1%	1%
Page	126	128

thermio™ essential Srf	thermio™ essential Brf	thermio™ essential smart
		
04.46.0024.1	04.46.0025.1	04.46.0023.1
4010940045371	4010940045388	4010940044992
DC 3 V (2 x 1.5 V AA LR6 alkaline battery) AC 230 V ± 10 % 50-60 Hz	DC 3 V (2 x 1.5 V AA LR6 alkaline battery) AC 230 V ± 10 % 50-60 Hz	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
2 years (depending on the switching frequency)	2 years (depending on the switching frequency)	1 year (depending on the switching frequency)
16 A / 250 V AC	16 A / 250 V AC, 20 A / 125 V AC, 16 A / 30 V DC	8 A / 250 V AC
3 A / 250 V AC	8 A / 250 V AC, 8 A / 125 V AC	3 A / 250 V AC
Two-point (ON/OFF)	Two-point (ON/OFF)	PID (factory setting), 2-point (ON/OFF)
+5 °C (frost protection), +5 °C to +35 °C	+5 °C (frost protection), +5 °C to +35 °C	+5 °C (frost protection), +5 °C ... +35 °C
–	–	6 times per hour (3 to 12 times per hour
Screw terminal with wire protection, max. 2.5 mm²	Screw terminal with wire protection, max. 2.5 mm² flat plug DIN 6.3	Screw terminal with wire protection, max. 2.5 mm²
868.3 MHz	868.3 MHz	Bluetooth 4.0, 2.4 GHZ
30 m (inside building)	30 m (inside building)	10 m
OFF mode (5 °C frost protection), reset function, temperature reduction mode/AUTO	OFF mode (5 °C frost protection), reset function, temperature reduction mode/AUTO	Manual mode, OFF mode (5 °C frost protection), reset function, key lock, override mode, boost mode, temperature reduction mode/AUTO, holiday mode
ON/OFF	ON/OFF	ON/OFF/AUTO
–	–	PIN code
–	–	-3 °C to +3 °C
–	–	7 days, 5-2 days, 1-7 days, Boost, manual, individual programming (max. 4 or 6 ON/OFF switching times)
–	–	Smartphone/tablet
Room temperature: 0.1°C, temperature setpoint 0.2 °C	Room temperature: 0.1°C, temperature setpoint 0.2 °C	Room temperature: 0.1°C, temperature setpoint 0.5 °C, Time of day 1 minute
–	–	Boost 1, 2, 3 Hours ON/OFF 10 minutes Program Time 10 minutes
every 60 seconds	every 60 seconds	every 60 seconds
±0 °C ... +50 °C	±0 °C to +50 °C	-10°C to +50°C
–	–	Automatic summer/winter Time adjustment
–	–	Digital
Battery condition Operating mode Radio signal strength indication Status display for heating LED	Battery condition Operating mode Radio signal strength indication Status display for heating LED	Battery condition Operating mode Radio signal strength indication Status display for heating Temperature profile
I	I	I, IV
ON/OFF room thermostat	ON/OFF room thermostat	ON/OFF room thermostat; TPI room thermostat for use with on/off heaters
1%	–	1 %, 2 %
130	132	134

ANALOGUE ROOM THERMOSTATS

▶ thermio™ essential

thermio™ essential B

Item no. 04.46.0020.1

Product description

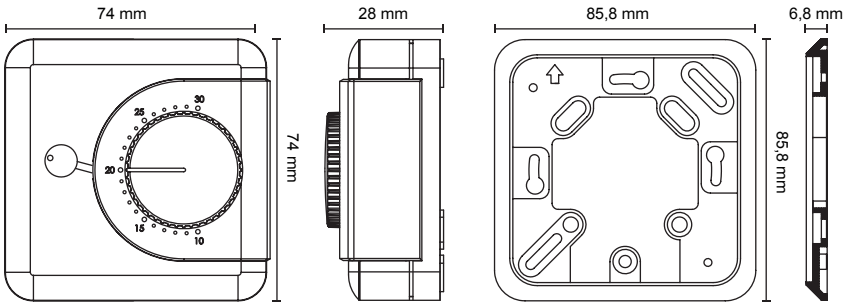
The thermio™ essential B is an analogue room thermostat of ErP class I for convenient control of the room temperature. Its simple, individual and automatic temperature control as well as its analogue technology contribute to a significant reduction in energy costs. The thermio™ essential B features a toggle switch for switching it on and off. An additional mounting plate enables quick and easy on-wall mounting and contributes towards an elegant appearance.

Areas of application

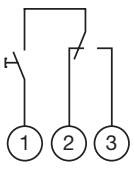
- Heating systems
- Heat pump
- Circulating pump
- Electric heating
- Motorised valves
- Actuators

ErP I (1%)

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Equipment operating voltage	AC 24 V to 230 V 50-60 Hz
Switching output	Changeover contact, potential-free
Switching capacity - resistive load	6 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	3 A / 250 V AC
Control function	Heating
Control type	Two-point (ON/OFF)
Control range	+10° C to +30° C

Electrical connection	
Device	Screw terminal with wire protection, max. 2.5 mm²

Operating data	
Manual switch	ON/OFF

Display and format	
Resolution	Temperature setpoint 1° C

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-10° C to +50° C

General data	
Colour	White/grey
Weight	159 g
Material	High-temperature resistant, self-extinguishing thermoplastics ABS plastic
Installation	On-wall (4-hole installation on flush-mounted socket), on-wall, flush mounting BS 4662, on-wall BS 5733

Compliance with standards	
ErP class	I
ErP function	ON/OFF room thermostat
ErP contribution to seasonal space heating energy efficiency	1%
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE, Energy Saving Trust

DIGITAL ROOM THERMOSTATS

▶ thermio™ essential

thermio™ essential C

Item no. 04.46.0021.1

Product description

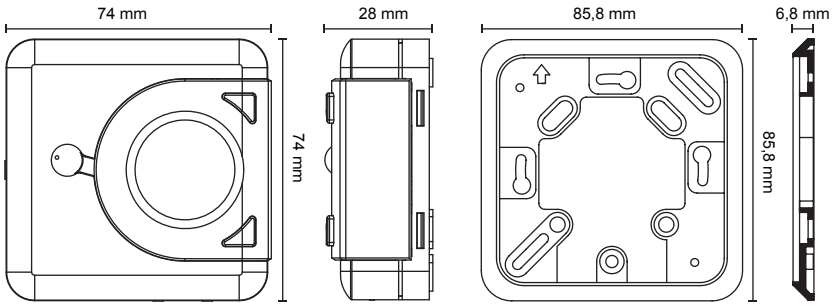
The thermio™ essential C is a digital room thermostat of ErP class I for convenient control and monitoring of the room temperature. A display shows the current temperature and temperature setpoint as well as the state of the system. Its high control accuracy and low power consumption contribute to a significant reduction in energy costs. The thermio™ essential C features a toggle switch for switching it on and off. An additional mounting plate enables quick and easy on-wall mounting and an elegant appearance.

Areas of application

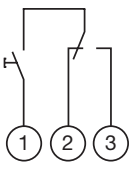
- Heating systems
- Heat pump
- Circulating pump
- Electric heating
- Motorised valves
- Actuators

CE ErP I (1%)

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
Battery life	2 years (depending on the switching frequency)
Switching output	Changeover contact, potential-free
Switching capacity - resistive load	8 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	3 A / 250 V AC
Power consumption	5 VA
Control function	Heating
Control type	Two-point (ON/OFF)
Control range	+5° C to +35° C

Electrical connection	
Device	Screw terminal with wire protection, max. 2.5 mm²

Operating data	
Operating mode	Reset function
Manual switch	ON/OFF

Display and format	
Resolution	Room temperature 0.1° C, temperature setpoint 0.2° C
Display update	every 60 seconds
Room temperature display	±0° C to +50° C
Status display	Battery condition

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-10° C to +50° C

General data	
Colour	White/grey
Weight	158 g
Material	High-temperature resistant, self-extinguishing thermoplastics ABS plastic
Installation	On-wall (4-hole installation on flush-mounted socket), on-wall, flush mounting BS 4662, on-wall BS 5733

Compliance with standards	
ErP class	I
ErP function	ON/OFF room thermostat
ErP contribution to seasonal space heating energy efficiency	1%
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE, Energy Saving Trust

DIGITAL WIRELESS ROOM THERMOSTATS

▶ thermio™ essential

thermio™ essential Srf

Item no. 04.46.0024.1

Product description

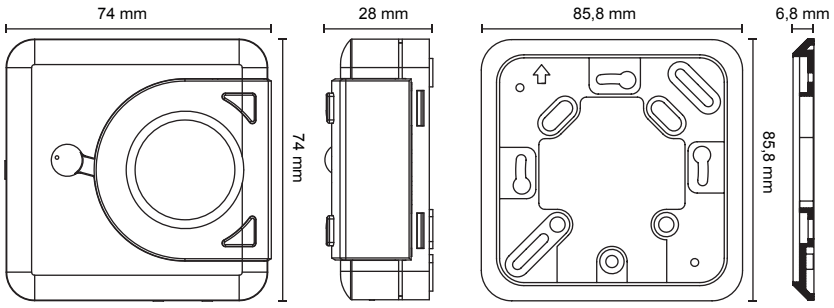
The thermio™ essential Srf is a digital wireless room thermostat of ErP class I. It is a combination of the thermio™ essential Hrf transmitter and the Rec/Uno 2 rf receiver. thermio™ essential Srf is designed for on-wall mounting. Its wireless radio technology allows it to be placed anywhere in the room without laying electrical cables and thereby enables extremely convenient control and monitoring of the room temperature. In addition, the thermostats have a frost protection function that can be activated using a toggle key. Up to 16 radio receivers can be connected to the transmitter. In case of poor radio communication, manual operation is possible using an ON/OFF switch on the receiver.

Areas of application

- ▶ Heating systems
- ▶ Heat pump
- ▶ Circulating pump
- ▶ Electric heating
- ▶ Motorised valves
- ▶ Actuators

CE ErP I (1%)

Dimensional drawings



Technical data

Electrical data	
Supply voltage	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
Battery life	2 years (depending on the switching frequency)
Power consumption	5 VA
Control function	Heating
Control type	Two-point (ON/OFF)
Control range	+5 °C to +35 °C, +5 °C (frost protection)

Electrical connection	
Device	Screw terminal with wire protection, max. 2.5 mm²

Communication type	
Radio signal	868.3 MHz
Range	30 m (inside building)

Operating data	
Operating mode	OFF mode (5 °C frost protection), reset function, temperature reduction mode/AUTO
Manual switch	ON/OFF

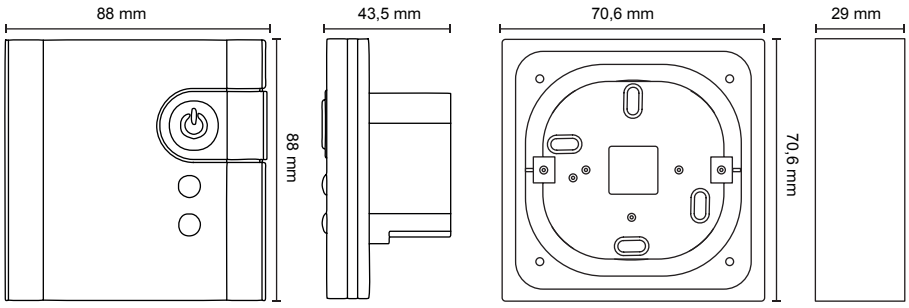
Display and format	
Resolution	Room temperature: 0.1°C, temperature setpoint 0.2 °C
Display update	every 60 seconds
Room temperature display	±0 °C to +50 °C
Status display	Battery condition, operating mode, radio signal strength indication, status display for heating

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-10°C to +50°C

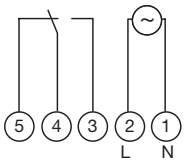
General data	
Colour	White/grey
Weight	178 g
Material	High-temperature resistant, self-extinguishing thermoplastics ABS plastic
Installation	On-wall (4-hole installation on flush-mounted socket), on-wall, flush mounting BS 4662, on-wall BS 5733

Compliance with standards	
ErP class	I
ErP function	ON/OFF room thermostat
ErP contribution to seasonal space heating energy efficiency	1%
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE, Energy Saving Trust

Dimensional drawings



Circuit diagrams



DIGITAL WIRELESS ROOM THERMOSTATS

▶ thermio™ essential

thermio™ essential Brf

Item no. 04.46.0025.1

Product description

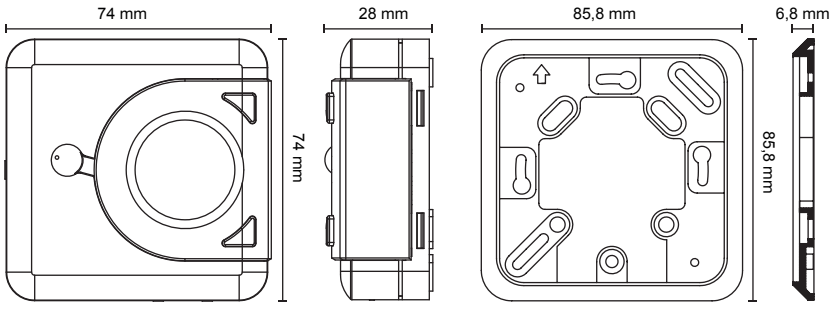
The thermio™ essential Brf is a digital wireless room thermostat of ErP class I. It is a combination of the thermio™ essential Hrf transmitter and the Rec/Uno 2 rf receiver module Unlike the thermio™ essential Srf, it is an installation version. Its wireless radio technology allows it to be placed anywhere in the room without laying electrical cables and thereby enables extremely convenient control and monitoring of the room temperature. In addition, the thermostats have a frost protection function that can be activated using a toggle key. Up to 16 radio receivers can be connected to the transmitter. In case of poor radio communication, manual operation is possible using an ON/OFF switch on the receiver.

Areas of application

▶ Installation integrated in a gas boiler

CE ErP I (1%)

Dimensional drawings



Technical data

Electrical data	
Supply voltage	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
Battery life	2 years (depending on the switching frequency)
Power consumption	5 VA
Control function	Heating
Control type	Two-point (ON/OFF)
Control range	+5 °C to +35 °C, +5 °C (frost protection)

Electrical connection	
Device	Flat plug DIN 6.3

Communication type	
Radio signal	868.3 MHz
Range	30 m (inside building)

Operating data	
Operating mode	OFF mode (5 °C frost protection), reset function, temperature reduction mode / AUTO
Manual switch	ON/OFF

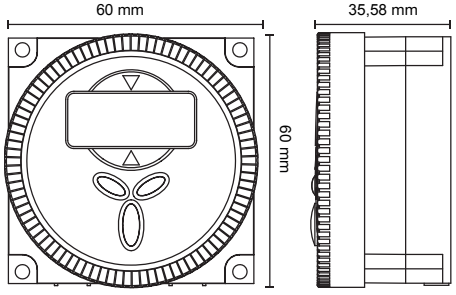
Display and format	
Resolution	Room temperature: 0.1°C, temperature setpoint 0.2 °C
Display update	every 60 seconds
Room temperature display	±0 °C to +50 °C
Status display	Battery condition, operating mode, radio signal strength indication, status display for heating

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-10°C to +50°C

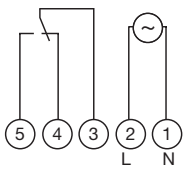
General data	
Colour	White/grey
Weight	178 g
Material	High-temperature resistant, self-extinguishing thermoplastics ABS plastic
Installation	On-wall (4-hole installation on flush-mounted socket), on-wall, flush mounting BS 4662, on-wall BS 5733

Compliance with standards	
ErP class	I
ErP function	ON/OFF room thermostat
ErP contribution to seasonal space heating energy efficiency	1%
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE, Energy Saving Trust

Dimensional drawings



Circuit diagrams



DIGITAL ROOM THERMOSTATS

▶ thermio™ essential

thermio™ essential smart

Item no. 04.46.0023.1

Product description

The thermio™ essential smart is a digital room thermostat of ErP class IV that can be programmed and operated easily and conveniently with a free app. Thanks to the integrated Bluetooth function, temperature profiles and schedules created on a mobile device can be transmitted and adapted easily and simply to the thermio™ essential smart. This allows individual temperature profiles to be implemented easily, lowered automatically and thereby significantly reduce heating costs – without any loss of convenience. Of course the thermio™ essential smart can also be operated without the app: A large LC display and a manual ON/OFF switch make the room thermostat easy to operate.

Areas of application

- ▶ Heating systems
- ▶ Heat pump
- ▶ Circulating pump
- ▶ Electric heating
- ▶ Motorised valves
- ▶ Actuators

ErP IV (2%) I (1 %)

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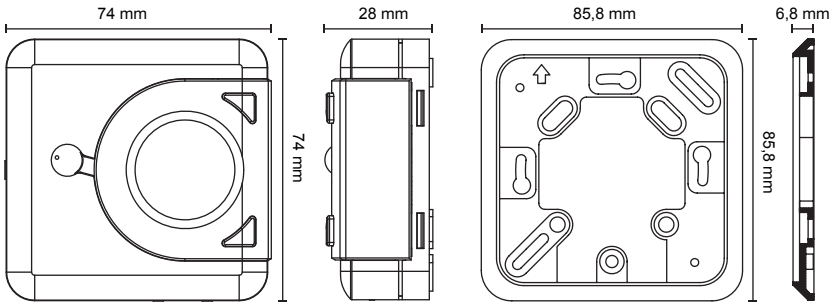
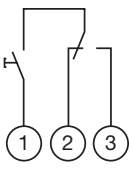
Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
Battery life	1 year (depending on the switching frequency)
Switching output	Changeover contact, potential-free
Switching capacity - resistive load	8 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	3 A / 250 V AC
Power consumption	5 VA
Power reserve	Programs saved in EEPROM
Control function	Heating
Control type	PID (factory setting), 2-point (ON/OFF)
Control range	+5° C to +35° C, +5° C (frost protection)
Heating cycle	6 Times per hour (3 ... 12 times per hour

Electrical connection	
Device	Screw terminal with wire protection, max. 2.5 mm²

Communication type	
Radio signal	Bluetooth 4.0, 2.4 GHZ
Range	10 m
Output power	< 1 mW
Status display	Bluetooth symbol

Operating data	
Operating mode	Manual mode, OFF mode (5° C frost protection), reset function, key lock, override mode, boost mode, temperature reduction mode/ AUTO, holiday mode
Manual switch	ON/OFF/AUTO
Tampering protection	PIN code
Offset	-3° C to +3° C
Programs	7 days, 5-2 days, 1-7 days, Boost, manual, individual programming (max. 4 or 6 ON/OFF switching times)
Programming	Smartphone/tablet

Display and format	
Resolution	Room temperature 0.1° C, temperature setpoint 0.5° C, Time of day 1 minute
Shortest switching Time	Boost 1, 2, 3 hours, ON/OFF 10 minutes, program time 10 minutes
Room temperature display	-10° C to +50° C
Summer/winter Time	Automatic summer/winter Time adjustment
Time	Digital
Status display	Battery condition, operating mode, status display for heating, temperature profile

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	-10° C to +50° C

General data	
Colour	White/grey
Weight	282 g
Material	High-temperature resistant, self-extinguishing thermoplastics, ABS plastic
Installation	On-wall (4-hole installation on flush-mounted socket), on-wall, flush mounting BS 4662, on-wall BS 5733

Compliance with standards	
ErP class	I, IV
ErP function	ON/OFF room thermostat TPI room thermostat for use with on/off heaters
ErP contribution to seasonal space heating energy efficiency	1 %, 2 %
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE, Energy Saving Trust

DIGITAL ROOM THERMOSTATS

▶ thermio™ essential

RecUno/2 rf

Item no. 04.58.0013.1

RecFM/2 rf

Item no. 04.52.0011.1

Product description

RecUno/2 rf is a radio receiver for use with wireless controllers from GRÄSSLIN. The wireless technology enables individual placement in the room without the laying of electrical cables and is especially suitable for use in new buildings or for retrofitting. The signal and control accuracy is ensured by the high radio range of up to 30 meters inside buildings.

The RecFM/2 rf is a radio receiver for use with wireless controllers from Grässlin. The signal and control accuracy is ensured by the high radio range of up to 30 meters inside buildings. The RecFM/2 was developed specially for installation in gas boilers.

Areas of application

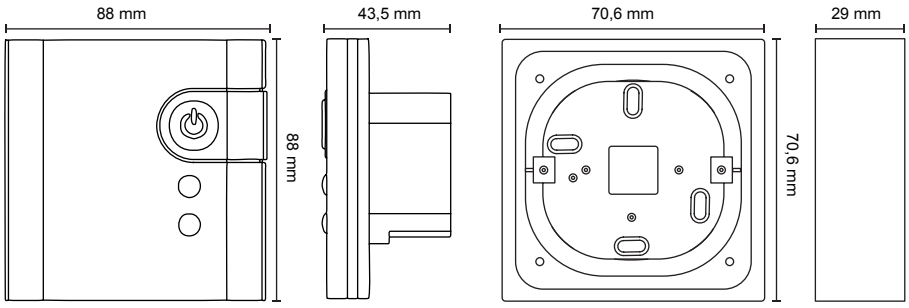
RecUno/2 rf:

- ▶ Heating systems
- ▶ Electric heating
- ▶ Motorised valves
- ▶ Actuators

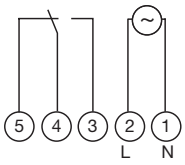
RecFM/2 rf:

- ▶ Installation integrated in a gas boiler

Dimensional drawings



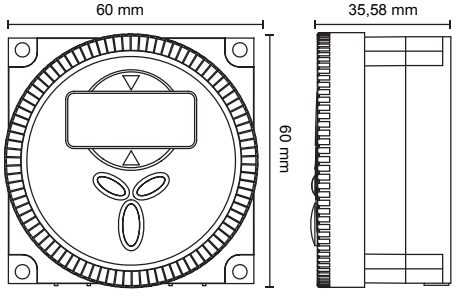
Circuit diagrams



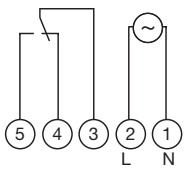
Technical data

Electrical data		
Supply voltage	AC 230 V ± 10 % 50-60 Hz	
Switching output	Changeover contact, potential-free	
Power consumption	5 VA	
Switching capacity - resistive load	16 A / 250 V AC	04.52.0013.1
	16 A / 250 V AC, 20 A / 125 V AC, 16 A / 30 V DC	04.52.0011.1
Switching capacity – inductive load cos. phi 0.6	3 A / 250 V AC	04.52.0013.1
	8 A / 250 V AC, 8 A / 125 V AC	04.52.0011.1
Electrical data		
Device	Screw terminal with wire protection, max. 2.5 mm²	04.52.0013.1
	Flat plug DIN 6.3	04.52.0011.1
Communication type		
Wired	2-wire	
Radio signal	868.3 MHz	
Range	30 m (inside building)	
Status display	LED	
Operating data		
Manual switch	ON/OFF	
Programs	Manual	
Display and format		
Status display	Operating mode, radio signal strength indication, status display for heating	
Ambient conditions		
Humidity (in operation)	10% to 90% relative humidity, condensation-free	
Temperature (in operation)	±0° C to +50° C	
General data		
Material	High-temperature resistant, self-extinguishing thermoplastics	
Installation	Flush mounting, on-wall	04.52.0013.1
	Installation (boiler)	04.52.0011.1
Compliance with standards		
IP code	IP20	
Protection class	II, when installed accordingly	
Certification mark	CE, Energy Saving Trust	

Dimensional drawings



Circuit diagrams



PROGRAMMABLE ROOM THERMOSTATS

▶ feeling – overview

	feeling D101	feeling D101 rf
		
Item no.	04.53.0005.1	04.11.0004.1
EAN code	4010940039578	4010940039974
Interface	–	–
Supply voltage	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
Battery life	1 year (depending on the switching frequency)	2 years (depending on the switching frequency)
External inputs	–	–
Communication type	Radio 868.3 MHz	Radio 868.3 MHz
Operating mode	Auto mode (program-dependent), night temperature mode	Auto mode (Program dependent), anti-legionella function, countdown mode (OFF mode after hours), holiday mode (auto mode after days), manual eco fix mode (program dependent Ø temperature), OFF mode (5 °C frost protection, party mode (auto mode after hours), cleaning mode (OFF mode after 2 hours), key lock
Manual switch	Auto temperature, control temperature 1, control temperature 2	–
Offset	–	-5 °C to +5 °C
Programs	Daily program	7 days, 5-2 days, 1-7 days, free weekday block formation, individual Programming
Hour meter	–	–
Time display format	24-hour format	12-hour format, 24-hour format
Shortest switching Time	Programme time 15 minutes	Programme time 30 minutes
Room temperature display	–	±0 °C to +50 °C
Summer/winter Time adjustment	Manual	Automatic
Time	Analogue pointer	Digital
Status display	Battery condition, radio signal strength indication	Battery condition, operating mode, radio signal strength indication, status display for heating, temperature profile
ErP class	I	I, IV
Page	**140**	**142**

GSM / UMTS REMOTE SWITCHES

▶ telltask 1C1– overview

telltask 1C1

Item no.	44.01.0001.1	
EAN code	4010940046170	
Supply voltage	DC 12 V	
Switching output	Changeover contact, potential-free	
Switching capacity - resistive load	1 A / 30 V DC	
Switching capacity – inductive load cos. phi 0.6	0,5 A, 250 V AC	
Device	GSM triat-band, 900 Mhz, 1800 Mhz, 2100 Mhz SIM-Card Typ Micro-SIM 3FF	
Status display	Status display LED	
Temperature (in operation)	-5° C to +45° C	
Colour	White	
Material	ABS plastic	
Dimensions	163 x 56,8 x 31 cm with antenna	
Installation	On-wall	
IP Code	IP20	
Certification mark	CE	
Housing	EN-50022: UL94V-0	

Page **146**

DIGITAL PROGRAMMABLE ROOM THERMOSTAT

▶ feeling

feeling D101

Item no. 04.10.0001.1

Product description

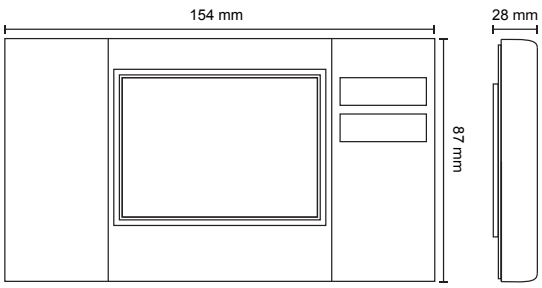
feeling D101 is a digital, programmable room thermostat. It allows fast, energy-saving individual room control with anti-legionella protection. The high level of control accuracy contributes to an efficient use of the system. The chronostat has various operating modes for adapting the indoor climate to individual needs. The large display enables user-friendly programming and operation. feeling D101 has up to 48 different time-temperature programs that can be used to improve comfort indoors.

Areas of application

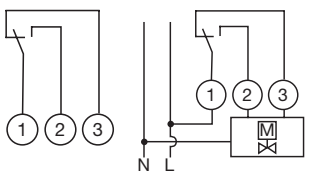
- Heating systems
- Underfloor heating
- Electric heaters
- Motorised valves
- Actuators

ErP IV (2%) I (1 %)

Dimensional drawings



Circuit diagrams



Wiring example
Boiler / heating

Wiring example
Motorised valve

Technical data

Electrical data	
Supply voltage	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
Battery life	2 years (depending on the switching frequency)
Battery replacement time (power reserve)	> 10 minutes (programs saved in EEPROM)
Switching output	Changeover contact, potential-free, opening width < 3 mm
Switching capacity - resistive load	6 A / 250 V AC
Switching capacity – inductive load cos. phi 0.6	2 A / 250 V AC
Control function	Heating
Control type	PID (factory setting), 2-point (ON/OFF)
Hysteresis	±0.4 K (±0.1 K to ±0.9 K)
Control range	+5° C to +32° C, +5° C (+3° C to +7° C frost protection)
Control accuracy	±0.5° C (20 K/hour)
Sensor (thermistor)	100 K (at 25° C) NTC
Heat measurement (heating system)	3 K/hour

Electrical connection	
Device	Screw terminal with wire protection, max. 1.5 mm²

Communication type	
Wired	2-wire

Operating data	
Operating mode	Auto mode, anti-legionella function, countdown mode, holiday mode, manual eco-fix mode, OFF mode, party mode, cleaning mode, key lock
Offset	-5° C to +5° C
Programs	7 days, 5-2 days, 1-7 days, free weekday block formation, individual programming (max. 7 programs with 48 switching times)

Display and format	
Resolution	Room temperature 0.1° C, temperature setpoint 0.5° C, Time of day 1 minute
Display update	every 10 seconds
Time display format	24-hour format (factory setting), 12-hour format (AM/PM)
Shortest switching time	Programme time 30 minutes
Room temperature display	+0° C to +50° C
Summer/winter time	Automatic summer/winter time adjustment
Status display	Battery status, operating mode, status display for heating (flame symbol), temperature profile

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	±0° C to +45° C

General data	
Colour	White
Weight	200 g
Material	ABS plastic
Installation	On-wall (4-hole installation on flush-mounted socket)

Compliance with standards	
ErP class	I, IV
ErP function	ON/OFF room thermostat TPI room thermostat for use with on/off heaters
ErP contribution to seasonal space heating energy efficiency	1 %, 2 %
IP code	IP40
Protection class	II, when installed accordingly
Certification mark	CE, Energy Saving Trust

DIGITAL PROGRAMMABLE ROOM THERMOSTAT

▶ feeling

feeling D101 rf

Item no. 04.11.0004.1

Product description

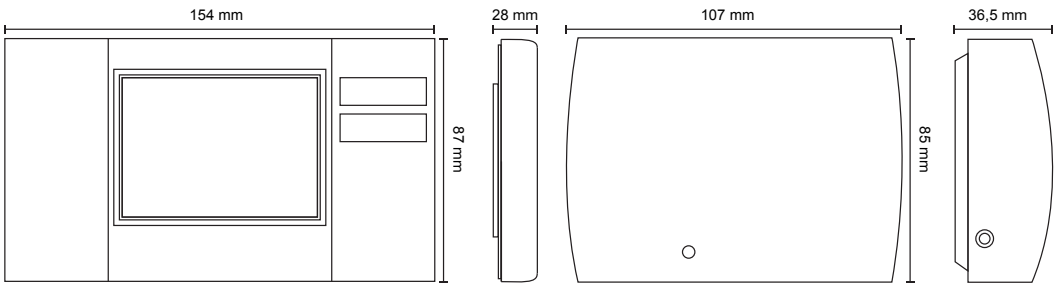
feeling D101 rf is the radio version of the D101. Its wireless technology enables individual placement in the room without laying electrical wires and is especially suitable for use in new buildings or for retrofitting. The signal and control accuracy is ensured by the high radio range of up to 30 meters inside buildings.

Areas of application

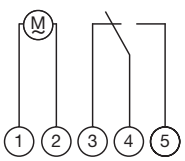
- Heating systems
- Underfloor heating
- Electric heaters
- Motorised valves
- Actuators

CE ErP IV (2%) I (1 %)

Dimensional drawings



Circuit diagrams



RecUno rf - receivers

Technical data

Electrical data	
Supply voltage	DC 3 V (2 x 1.5 V AA LR6 alkaline battery)
Battery life	2 years (depending on the switching frequency)
Battery replacement time (power reserve)	> 10 minutes (programs saved in EEPROM)
Control function	Heating
Control type	PID (factory setting), 2-point (ON/OFF)
Hysteresis	±0.4 K (±0.1 K to ±0.9 K)
Control range	+5° C to +32° C, +5° C (+3° C to +7° C frost protection)
Control accuracy	±0.5° C (20 K/hour)
Sensor (thermistor)	100 K (at 25° C) NTC
Heat measurement (heating system)	3 K/hour

Electrical connection	
Device	Screw terminal with wire protection, max. 1.5 mm²

Communication type	
Radio signal	868.3 MHz
Range	30 m (inside building)
Coding	> 16.8 mil.
Output power	< 1 mW

Operating data	
Operating mode	Auto mode, anti-legionella function, countdown mode, holiday mode, manual eco-fix mode, OFF mode, party mode, cleaning mode, key lock
Offset	-5° C to +5° C
Programs	7 days, 5-2 days, 1-7 days, free weekday block formation, individual programming (max. 7 programs with 48 switching times)

Display and format	
Resolution	Room temperature 0.1° C, temperature setpoint 0.5° C, Time of day 1 minute
Display update	every 10 seconds
Time display format	24-hour format (factory setting), 12-hour format (AM/PM)
Shortest switching time	Programme time 30 minutes
Room temperature display	+0° C to +50° C
Summer/winter time	Automatic summer/winter time adjustment
Status display	Battery status, operating mode, radio signal strength indication, status display for heating (flame symbol), temperature profile

Ambient conditions	
Humidity (in operation)	10% to 90% relative humidity, condensation-free
Temperature (in operation)	±0° C to +45° C

General data	
Colour	White
Weight	200 g
Material	ABS plastic
Installation	On-wall (4-hole installation on flush-mounted socket)

Compliance with standards	
ErP class	I, IV
ErP function	ON/OFF room thermostat TPI room thermostat for use with on/off heaters
ErP contribution to seasonal space heating energy efficiency	1 %, 2 %
IP code	IP40
Protection class	II, when installed accordingly
Certification mark	CE, Energy Saving Trust

RECEIVERS FOR PROGRAMMABLE ROOM THERMOSTATS

▶ feeling

RecUno/2 rf

Item no. 4.52.0001.1

RecFM/1 rf

Item no. 04.52.0012.1

Product description

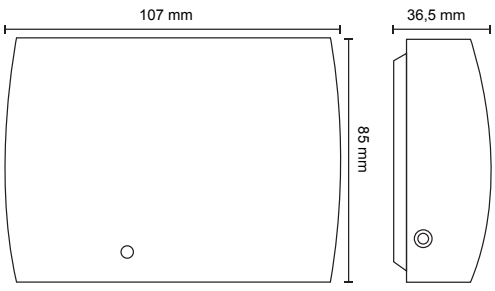
RecUno/2 rf is a radio receiver for use with radio controllers from GRÄSSLIN. It is used as a surface-mounted device in indoor spaces. The wireless technology enables individual placement in the room without laying electrical wires and is especially suitable for use in new buildings or for retrofitting. The signal and control accuracy is ensured by the high radio range of up to 30 meters inside buildings. The RecFM/1 rf is a radio receiver for use with wireless controllers from Grässlin. The wireless technology enables individual placement in the room without laying electrical wires and is especially suitable for use in new buildings or for retrofitting. The signal and control accuracy is ensured by the high radio range of up to 30 meters inside buildings. RecFM/1 was developed specially for installation in gas boilers.

Areas of application

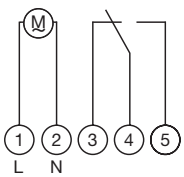
RecUno/2 rf:

- Heating systems
- Electric heating
- Motorised valves
- Actuators
- Installation integrated in a gas boiler

Dimensional drawings



Circuit diagrams



RecUno rf

Technical data

Electrical data		
Supply voltage	AC 230 V ± 10 % 50-60 Hz	
Switching output	Changeover contact, potential-free, opening width < 3 mm	
Switching capacity - resistive load	5 A/ 250 V AC	
Switching capacity – inductive load cos. phi 0.6	1 A / 250 V AC	
Device	Screw terminal with wire protection max. 1.5 mm²	04.52.0001.1
	Flat plug DIN 6.3	04.52.0012.1

Communication type		
Wired	2-wire	
Radio signal	868.3 MHz	
Range	30 m (inside building)	
Coding	> 16.8 mil.	
Output power	< 1 mW	
Status display	LED	

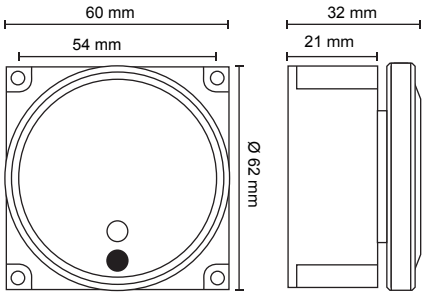
Display and format		
Status display	Status display for heating (LED)	

Ambient conditions		
Humidity (in operation)	10% to 90% relative humidity, condensation-free	
Temperature (in operation)	-5° C to +45° C	

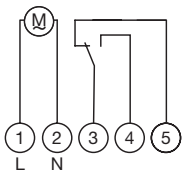
General data		
Colour	White	
Material	ABS plastic	
Weight	113 g	04.52.0001.1
		04.52.0012.1
Installation	On-wall (4-hole installation on flush-mounted socket)	04.52.0001.1
	Installation (boiler)	04.52.0012.1

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE

Dimensional drawings



Circuit diagrams



RecFM/1 rf

GSM / UMTS REMOTE SWITCHES

▶ telltask

telltask 1C1

Item no. 44.01.0001.1

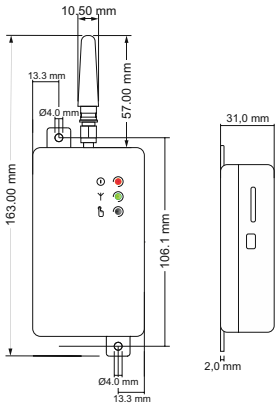
Product description

The telltask 1C 1 is a 3G/UMTS remote control for wall mounting that enables actuation of an electric device. For this purpose, the device is connected to a socket and to the device to be controlled and then fitted with a SIM card so it can be contacted via smartphone at its own phone number. An integrated sensor monitors the room temperature, which can be called up via text message. Two temperature thresholds can be programmed. Up to 6 users are informed via text message in the event of an alarm. Thanks to its power supply with 5.5 and 24 V, the device can also be used on a boat or in a caravan, for example. Contents include a 3G antenna, a mains adapter, a USB cable and multilingual software.

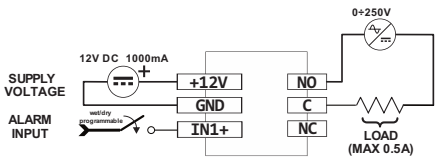
Areas of application

- Actuation of chronothermostats
- Actuation of boilers
- Actuation of burners as well as air conditioning and heating
- Monitoring and control of industrial halls, warehouses and cold storage
- Fans
- Blinds
- Air conditioning

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	DC 12 V
Switching output	Changeover contact, potential-free
Switching capacity - resistive load	0,5 A, 250 V AC 1 A / 30 V DC
Device	Screw terminal max. 2,5 mm^2
Progr. digital Input	0 to 3-30 V

Communication type	
Radio signal	GSM triat-band, 900 Mhz, 1800 Mhz, 2100 Mhz SIM-Card Typ Micro-SIM 3FF

Display and format	
Status display	Status display LED

Ambient conditions	
Temperature (in operation)	-5° C to +45° C

General data	
Colour	White
Material	ABS plastic
Dimensions	163 x 56,8 x 31 cm with antenna
Installation	On-wall

Compliance with standards	
IP Code	IP20
Certification mark	CE
Housing	EN-50022: UL94V-0

GRÄSSLIN

METERS

Easily make energy consumption and operating hours visible

METER

Energy meters:

Hour meters:

DIGITAL ENERGY METERS

▶ taxxo – overview

	taxxo ER 80-1	taxxo E 45-1-MID	taxxo E 100-3-MID
			
Item no.	05.25.0003.1	05.25.0002.1	05.25.0004.1
EAN code	4010940044107	4010940044091	4010940044114
Number of modules	2	1	7
Number of phases	1	1	3
Resolution	0.1 kWh	0.01 kWh	0.1 kWh
Wired	2-wire	2-wire	4-wire
Accuracy class	1	B (MID)	B (MID)
Impulse duration	90 ms	90 ms	30 - 80 ms
Power consumption	8 VA	8 VA	10 VA
Maximum current (Imax)	80 A	45 A	100 A
Standards and directives	DIN 43684 IEC 62052-11 IEC 62053-21	DIN 43684 EN 50470-1 EN 50470-3	DIN 43684 EN 50470-1 EN 50470-3
Temperature (in operation)	-20° C to +65° C	-25° C to +55° C	-25° C to +55° C
Consumption indicator	Digital (2 x 6 digits) kWh Total kWh	Digital (7 digits) kWh	Digital (7 digits) kWh
Power loss	0.4 W	0.4 W	2 W
Supply voltage	AC 230 V ± 20 % 50-60 Hz	AC 230 V ± 20 % 50 Hz ± 10 %	AC 230 V ± 20 % 50 Hz ± 10 % AC 400 V ± 20 % 50 Hz ± 10 %
Page	**152**	**154**	**156**

ANALOGUE ENERGY METERS

▶ taxxo – overview

taxxo M 45-1

Item no.	05.25.0001.1	
EAN code	4010940044084	
Number of modules	1	
Number of phases	1	
Resolution	0.1 kWh	
Wired	2-wire	
Accuracy class	1	
Impulse duration	90 ms	
Power consumption	8 VA	
Maximum current (Imax)	45 A	
Standards and directives	DIN 43684 IEC 62052-11 IEC 62053-21	
Temperature (in operation)	-20° C to +65° C	
Consumption indicator	Analogue (6 digits) kWh	
Power loss	0.4 W	
Supply voltage	AC 230 V ± 20 % 50-60 Hz	

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GRÄSSLIN

DIGITAL ENERGY METERS

▶ taxxo

taxxo ER 80-1

Item no. 05.25.0003.1

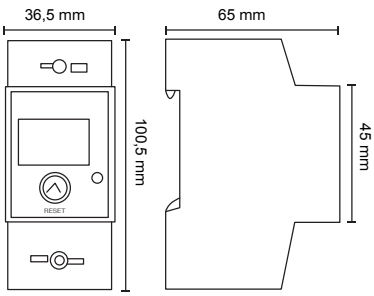
Product description

The taxxo product line devices are mainly used for the measurement of electric energy consumption in office complexes, camping and garden facilities, apartment buildings or charging stations for electric cars. They are highly accurate and offer maximum reliability. With their sealed housing they are perfectly protected from manipulation.

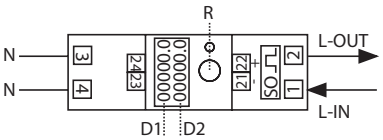
Areas of application

- Electrical energy consumption measurement
- Electrical heating facilities
- Installation in industrial and switching facilities
- Office complexes
- Camping and garden facilities
- Separate areas, e.g. in apartment buildings
- Charging stations for electric cars
- Control cabinets
- Shopping centres
- Exhibition halls
- Marinas

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Interface	S0
Supply voltage	AC 230 V ± 20 % 50-60 Hz
Live conductor	1
Withstand voltage at mains frequency	4 kV
Rated impulse voltage strength (Uimp)	6 kV
Impulse voltage	DC 12-27 V
Base current (Ib)	5 A
Initial current	0.004 Ib
Maximum current (Imax)	80 A
Minimum current (Imin)	0.25 A
Impulse current	27 mA
Impulses	1,000 impulses/kWh
Impulse duration	90 ms
Power consumption	8 VA
Power loss	0.4 W
Accuracy class	1

Electrical connection	
Device	Screw terminal with wire protection 6 mm^2 to 16 mm^2
Wire length	20 m

Communication type	
Wired	2-wire
Status display	LED

Operating data	
Operating mode	Reset function
Tampering protection	Sealable

Display and format	
Consumption indicator	Digital (2 x 6 digits) kWh Total kWh
Status display	Pulse indicator (LED) Sensor status indicator

Ambient conditions	
Temperature (in operation)	-20° C to +65° C

General data	
Number of modules	2
Colour	Grey
Installation	DIN rail

Compliance with standards	
IP code	IP51
Protection class	II, when installed accordingly
Certification mark	CE

DIGITAL ENERGY METERS

▶ taxxo

taxxo E 45-1-MID

Item no. 05.25.0002.1

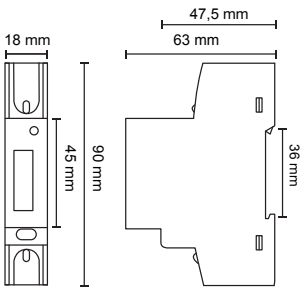
Product description

taxxo E 45-1-MID is a digital single-phase measuring device. With just one module width, this device is the easiest and most low-cost method for billing for energy consumption. The taxxo E 45-1-MID has a high-resolution display that shows the energy consumption with two decimals.

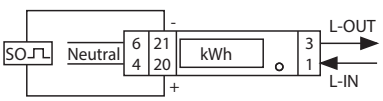
Areas of application

- Electrical energy consumption measurement
- Electrical heating facilities
- Installation in industrial and switching facilities
- Office complexes
- Camping and garden facilities
- Separate areas, e.g. in apartment buildings
- Charging stations for electric cars
- Shopping centres
- Exhibition halls
- Marinas

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Interface	S0
Supply voltage	AC 230 V ± 20 % 50 Hz ± 10 %
Live conductor	1
Withstand voltage at mains frequency	4 kV
Rated impulse voltage strength (Uimp)	6 kV
Impulse voltage	DC 12-27 V
Base current (Ib)	5 A
Initial current	0.004 Ib
Maximum current (Imax)	45 A
Minimum current (Imin)	0.25 A
Impulse current	27 mA
Impulses	1,000 impulses/kWh
Impulse duration	90 ms
Power consumption	8 VA
Power loss	0.4 W
Accuracy class	B (MID)

Electrical connection	
Device	Screw terminal with wire protection 4 mm^2 to 6 mm^2
Wire length	20 m

Communication type	
Wired	2-wire
Status display	LED

Operating data	
Tampering protection	Sealable

Display and format	
Consumption indicator	Digital (7 digits) kWh
Status display	Pulse indicator (LED) Sensor status indicator

Ambient conditions	
Temperature (in operation)	-25° C to +55° C

General data	
Number of modules	1
Colour	Grey
Installation	DIN rail

Compliance with standards	
IP code	IP51
Protection class	II, when installed accordingly
Certification mark	CE MID

GRÄSSLIN

DIGITAL ENERGY METERS

▶ taxxo

taxxo E 100-3-MID

Item no. 05.25.0004.1

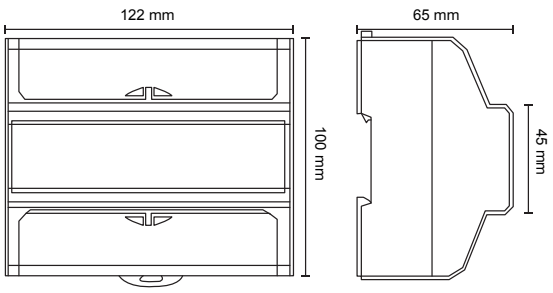
Product description

The taxxo E 100-3 MID has a three-phase connection, thereby enabling the recording of consumption of multiple consumers via a three-phase circuit. Due to its high voltage recording, the device is suitable mainly for accounting in industrial plants, shopping malls, multi-party buildings, exhibition halls, campsites or marinas. In case of shift work, it is possible to check the energy consumption per shift.

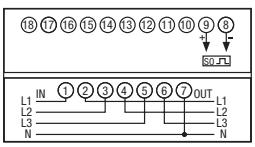
Areas of application

- Electrical energy consumption measurement
- Electrical heating facilities
- Installation in industrial or switching systems or other consumers of heavy current, power current, construction current and three-phase current
- Office complexes
- Camping and garden facilities
- Separate areas, e.g. in apartment buildings
- Charging stations for electric cars
- Shopping centres
- Exhibition halls
- Marinas
- Building services and wear monitoring for plants or machines

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Interface	S0
Supply voltage	AC 230 V ± 20 % 50 Hz ± 10 % AC 400 V ± 20 % 50 Hz ± 10 %
Live conductor	3
Withstand voltage at mains frequency	4 kV
Rated impulse voltage strength (Uimp)	6 kV
Impulse voltage	DC 12-27 V
Base current (Ib)	5 A
Initial current	0.004 Ib
Maximum current (Imax)	100 A
Minimum current (Imin)	0.25 A
Impulse current	27 mA
Impulses	1,000 impulses/kWh
Impulse duration	30 - 80 ms
Power consumption	10 VA
Power loss	2 W
Accuracy class	B (MID)

Electrical connection	
Device	Screw terminal with wire protection 18 mm^2 to 28 mm^2
Wire length	20 m

Communication type	
Wired	4-wire
Status display	LED

Operating data	
Tampering protection	Sealable

Display and format	
Consumption indicator	Digital (7 digits) kWh
Status display	Pulse indicator (LED) Sensor status indicator

Ambient conditions	
Temperature (in operation)	-25° C to +55° C

General data	
Number of modules	7
Colour	Grey
Installation	DIN rail

Compliance with standards	
IP code	IP51
Protection class	II, when installed accordingly
Certification mark	CE MID

GRÄSSLIN

ANALOGUE ENERGY METERS

▶ taxxo

taxxo M 45-1

Item no. 05.25.0001.1

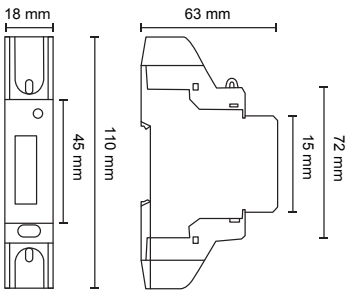
Product description

The taxxo M 45-1 is an analogue single-phase measuring device. It is suitable for installation on a DIN rail Just one module wide, it uses up very little space in the control cabinet. Even without an additional power supply, the taxxo M 45-1 reliably displays every counted value at any time, which is why this device is often used in the private area.

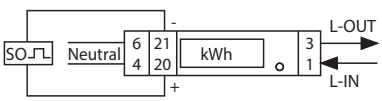
Areas of application

- Electrical energy consumption measurement
- Electrical heating facilities
- Installation in industrial and switching facilities
- Office complexes
- Camping and garden facilities
- Separate areas, e.g. in apartment buildings
- Shopping centres
- Exhibition halls
- Marinas

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Interface	S0
Supply voltage	AC 230 V ± 20 % 50-60 Hz
Live conductor	1
Withstand voltage at mains frequency	4 kV
Rated impulse voltage strength (Uimp)	6 kV
Impulse voltage	DC 12-27 V
Base current (Ib)	5 A
Initial current	0.004 Ib
Maximum current (Imax)	45 A
Minimum current (Imin)	0.25 A
Impulse current	27 mA
Impulses	1,000 impulses/kWh
Impulse duration	90 ms
Power consumption	8 VA
Power loss	0.4 W
Accuracy class	1

Electrical connection	
Device	Screw terminal with wire protection 4 mm^2 to 6 mm^2
Wire length	20 m

Communication type	
Wired	2-wire
Status display	LED

Operating data	
Tampering protection	Sealable

Display and format	
Consumption indicator	Analogue (6 digits) kWh
Status display	Pulse indicator (LED) Sensor status indicator

Ambient conditions	
Temperature (in operation)	-20° C to +65° C

General data	
Number of modules	1
Colour	Grey
Installation	DIN rail

Compliance with standards	
IP code	IP51
Protection class	II, when installed accordingly
Certification mark	CE

HOUR METERS

▶ taxxo – overview

	taxxo 100	taxxo 112	taxxo 612
			
Item no.	05.15.1001.1	05.15.1038.1	05.20.0006.1
EAN code	4010940001339	4010940002268	4010940001599
Installation	Surface mounting	Flush mounting	Flush mounting
Electrical connection	Screw terminal with wire protection max. 2.5 mm² socket	Flat plug DIN 6.3	Flat plug DIN 6.3
Supply voltage	AC 220-240 V ± 10 % 50 Hz	AC 18-26 V ± 10 % 50 Hz AC 110-127 V ± 10 % 60 Hz AC 220-240 V ± 10 % 50 Hz	AC 18-26 V ± 10 % 50 Hz AC 220-240 V ± 10 % 50 Hz AC 330-380 V ± 10 % 50 Hz
Replacement part / accessory	Base Wall-mounted housing	Catch frame Baffle 55 x 55 Baffle 72 x 72 Seal IP50 for baffle 72 x 72	Spring clip
IP code	IP20	IP20 IP54 with seal	IP20
Page	**162**	**164**	**166**

taxxo 712	taxxo 403	
		
05.20.0004.1	05.21.0001.1	
4010940001582	4010940001773	
Flush mounting	Distributor installation	
Flat plug DIN 6.3	Screw terminal with wire protection max. 2.5 mm^2 Captive screw terminals	
AC 18-26 V ± 10 % 50 Hz AC 110-120 V ± 10 % 50 Hz AC 110-127 V ± 10 % 60 Hz AC 220-240 V ± 10 % 50 Hz	AC 18-26 V ± 10 % 50 Hz AC 36-48 V ± 10 % 50 Hz AC 110-120 V ± 10 % 50 Hz AC 110-127 V ± 10 % 60 Hz AC 220-240 V ± 10 % 50 Hz AC 330-380 V ± 10 % 50 Hz	
Seal IP50 Catch frame	–	
IP20 IP54 with seal	IP20	
168	**170**	

HOUR METERS FOR SURFACE MOUNTING

▶ taxxo

taxxo 100

Item no. 05.15.1001.1

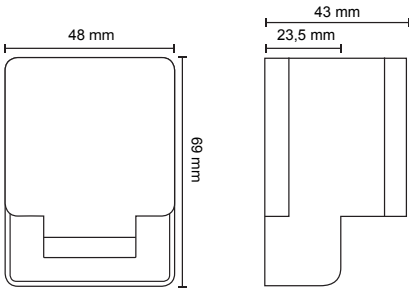
Product description

The device is equipped for surface mounting with a plug base with screw terminals. It operates synchronously with the power grid within an ambient temperature range of -20 °C to +55 °C. The meter can record up to 99,999.99 operating hours. The product complies with the safety regulations of protection class II and IP code IP20. taxxo is characterised by a long service life and maintenance-free technology in a robust and reliable design.

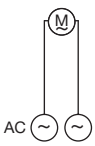
Areas of application

- Working time control for machinery
- Working time control for pumps
- Effective runtime measurement for vehicles and machinery

Dimensional drawings



Circuit diagrams



Technical data

Electrical data	
Supply voltage	AC 220-240 V ± 10 % 50 Hz
Power consumption	1 VA
Accuracy	Mains synchronised

Electrical connection	
Device	Screw terminal with wire protection max. 2.5 mm^2
	Socket

Display and format	
Meter display	Analogue (7 digits)
	Hours

Ambient conditions	
Temperature (in operation)	-20° C to +55° C

General data	
Installation	Surface mounting
	Terminal cover

Compliance with standards	
IP code	IP20
Protection class	II, when installed accordingly
Certification mark	CE
	VDE
	CSA

HOUR METERS FOR FLUSH MOUNTING

▶ taxxo

taxxo 112

Example

Item no. 05.15.1038.1

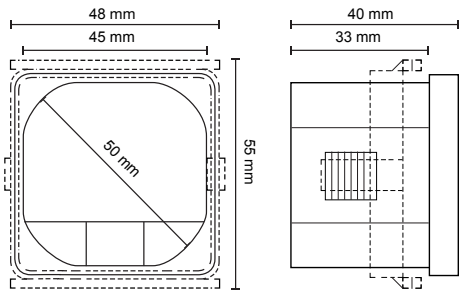
Product description

The hour meter taxxo 112 is designed for flush mounting with catch frame and baffle and available in various voltage versions. The device operates synchronously with the power grid within an ambient temperature range of -20 °C to +55 °C. The meter can record up to 99,999.99 operating hours. The product complies with the safety regulations of protection class II and IP code IP20. If equipped with a seal for additional protection, it complies with IP code IP54.

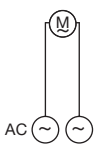
Areas of application

- Working time control for machinery
- Working time control for pumps
- Effective runtime measurement for vehicles and machinery

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		Item no.
Supply voltage	AC 220-240 V ± 10 % 50 Hz	05.15.1038.1
	AC 110-127 V ± 10 % 60 Hz	05.15.1031.1*
	AC 18-26 V ± 10 % 50 Hz	05.15.1016.1
Power consumption	1 VA	
Accuracy	Mains synchronised	
Electrical connection		
Device	Flat plug DIN 6.3	
Display and format		
Meter display	Analogue (7 digits)	
	Hours	
Ambient conditions		
Temperature (in operation)	-20° C to +55° C	
General data		
Installation	Flush mounting	
Compliance with standards		
IP code	IP20	
	IP54 with seal	
Protection class	II, when installed accordingly	
Certification mark	CE, VDE, CSA, UL	05.15.1038.1
	CE, CSA, UL	05.15.1031.1*
	CE, VDE, CSA, UL	05.15.1016.1
Optional accessories / spare part		
Catch frame	See catalogue page XY	15.27.0011.4
Baffle 55 x 55	See catalogue page XY	05.15.0065.6
Baffle 72 x 72	See catalogue page XY	16.26.0006.4
Seal IP54 for baffle 72 x 72	See catalogue page XY	11.24.0008.8

* These product variants are only produced by order

HOUR METERS FOR FLUSH MOUNTING

▶ taxxo

taxxo 612

Item no. 05.20.0006.1

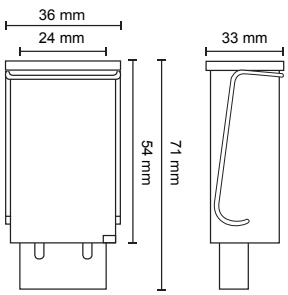
Product description

The hour meter taxxo 612 has a different shape than the taxxo 112. It is designed for flush mounting with a flat plug and spring clip and available in various voltage versions. The device operates synchronously with the power grid within an ambient temperature range of -20 °C to +55 °C. The meter can record up to 99,999.99 operating hours. The product complies with the safety regulations of protection class II and IP code IP20. taxxo is characterised by a long service life and maintenance-free technology in a robust and reliable design.

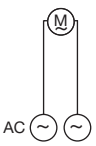
Areas of application

- Working time control for machinery
- Working time control for pumps
- Effective runtime measurement for vehicles and machinery

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 220-240 V ± 10 % 50 Hz	05.20.0006.1
	AC 18-26 V ± 10 % 50 Hz	05.20.0016.1
	AC 330-380 V ± 10 % 50 Hz	05.20.0033.1
Power consumption	1 VA	
Accuracy	Mains synchronised	
Electrical connection		
Device	Flat plug DIN 6.3	
Display and format		
Meter display	Analogue (7 digits)	
	Hours	
Ambient conditions		
Temperature (in operation)	-20° C to +55° C	
General data		
Installation	Flush mounting	
Compliance with standards		
IP code	IP20	
Protection class	II, when installed accordingly	
Certification mark	CE	
	VDE	
	CSA	
Optional accessories / spare part		
Spring clip	See catalogue page XY	05.20.0026.6

HOUR METERS FOR FLUSH MOUNTING

▶ taxxo

taxxo 712

Item no. 05.20.0004.1

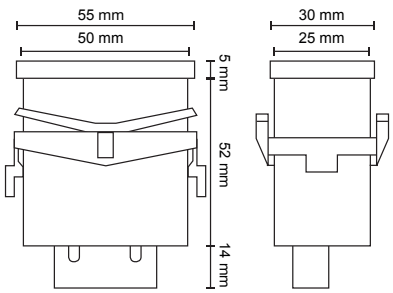
Product description

The hour meter taxxo 712 has a different shape than the taxxo 112. It is designed for flush mounting with a catch frame and available in various voltage versions. The device operates synchronously with the power grid within an ambient temperature range of -20 °C to +55 °C. The meter can record up to 99,999.99 operating hours. The product complies with the safety regulations of protection class II and IP code IP20 and, with an additional seal, IP code IP54.

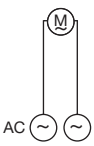
Areas of application

- Working time control for machinery
- Working time control for pumps
- Effective runtime measurement for vehicles and machinery

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 220-240 V ± 10 % 50 Hz	05.20.0004.1
	AC 110-127 V ± 10 % 60 Hz	05.20.0008.1*
	AC 18-26 V ± 10 % 50 Hz	05.20.0018.1
	AC 110-120 V ± 10 % 50 Hz	05.20.0029.1
Power consumption	1 VA	
Accuracy	Mains synchronised	
Electrical connection		
Device	Flat plug DIN 6.3	
Display and format		
Meter display	Analogue (7 digits)	
	Hours	
Ambient conditions		
Temperature (in operation)	-20° C to +55° C	
General data		
Installation	Flush mounting	
Compliance with standards		
IP code	IP20	
	IP54 with seal	
Protection class	II, when installed accordingly	
Certification mark	CE, VDE, CSA, UL	05.20.0004.1
	CE, CSA, UL	05.20.0008.1*
	CE, VDE, CSA, UL	05.20.0018.1
	CE, VDE, CSA, UL	05.20.0029.1
Optional accessories / spare part		
Seal IP54	See catalogue page XY	14.24.0001.5
Catch frame	See catalogue page XY	14.27.0002.4

* These product variants are only produced by order

HOUR METERS DIN RAIL MOUNTING

▶ taxxo

taxxo 403

Item no. 05.21.0002.1

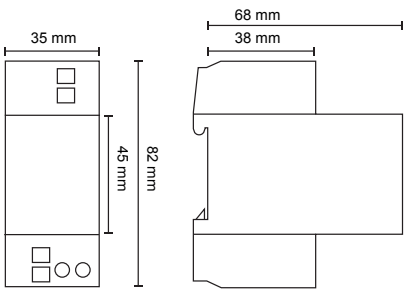
Product description

The hour meter taxxo 403 is designed for installation on DIN-rails and available in various voltage versions. The device is equipped with captive screw terminals and operates synchronously with the power grid within an ambient temperature range of -20 °C to +55 °C. The meter can record up to 99,999.99 operating hours. The product complies with the safety regulations of protection class II and IP code IP20. taxxo is characterised by a long service life and maintenance-free technology in a robust and reliable design.

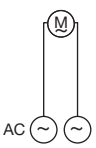
Areas of application

- Working time control for machinery
- Working time control for pumps
- Effective runtime measurement for vehicles and machinery

Dimensional drawings



Circuit diagrams



Technical data

Electrical data		
Supply voltage	AC 220-240 V ± 10 % 50 Hz	05.21.0001.1
	AC 110-120 V ± 10 % 50 Hz	05.21.0002.1
	AC 36-48 V ± 10 % 60 Hz	05.21.0003.1*
	AC 18-26 V ± 10 % 50 Hz	05.21.0004.1
	AC 330-380 V ± 10 % 50 Hz	05.21.0006.1
	AC 110-127 V ± 10 % 50 Hz	05.21.0009.1*
Power consumption	1 VA	
Accuracy	Mains synchronised	
Electrical connection		
Device	Screw terminal with wire protection max. 2.5 mm^2	
	Captive screw terminals	
Display and format		
Meter display	Analogue (7 digits)	
	Hours	
Ambient conditions		
Temperature (in operation)	-20° C to +55° C	
General data		
Weight	90 g	
Installation	DIN rail	
Compliance with standards		
IP code	IP20	
Protection class	II, when installed accordingly	
Certification mark	CE, VDE	05.21.0001.1
	CE, VDE	05.21.0002.1
	CE, VDE	05.21.0003.1*
	CE, VDE	05.21.0004.1
	CE, VDE	05.21.0006.1
	CE	05.21.0009.1*

* These product variants are only produced by order

GRÄSSLIN

ACCESSORIES

Original parts + accessories

ACCESSORIES

Accessories

GRÄSSLIN

ACCESSORIES

▶ Overview

	Wall installation kit 1 TE	Wall installation kit 2-3 TE	Glass
			
Item no.	18.01.0004.2	03.53.0083.2	01.46.0082.6
EAN code	4010940002657	4010940021719	4010940037567
Time switch technology	√	√	√
suitable for	talento 111 mini talento 211 mini talento B10 mini ?1?	talento 111 talento 121 talento 171 talento 211 talento 271 talento smart (except B10 mini)	tactic 111.1 tactic 171.1 tactic 211.1 tactic 271.1 tactic 372.1 plus tactic 571.1 plus tactic 572.1 plus tactic smart C15.1 tactic smart C25.1
Light control suitable for	√ turnus 501 trealux 210 trealux 510	-	-
Temperature control suitable for	-	-	-
Meters suitable for	-	-	-
Page	**30, 34, 96, 100**	**36, 38**	**36, 38, 42, 44, 46**

Seal	Base, 1-channel	Terminal cover, 1-channel	Installation base
			
01.45.0017.6	01.78.0002.2	01.78.0004.6	01.79.0002.2
4010940002848	4010940002848	4010940002817	4010940002831
√	√	√	√
tactic 111.1 tactic 171.1 tactic 211.1 tactic 271.1 tactic 372.1 plus tactic 571.1 plus tactic 572.1 plus tactic smart C15.1 tactic smart C25.1	tactic 111.1 tactic 171.1 tactic 211.1 tactic 271.1 tactic 571.1 plus tactic smart C15.1	tactic 111.1 tactic 171.1 tactic 211.1 tactic 271.1 tactic 571.1 plus tactic smart C15.1	FM/1 STuZH FM/1 QRTuZH FM/1 QRWuZH FMD 120 FMD smart tatic smart C15.1 tatic smart C25.1
-	-	-	-
			√
			RecFM/1 rf RecFM/2 rf
-	-	-	-
36, 38, 42, 44, 46	**36, 38, 42, 44, 46**	**36, 38, 42, 44, 46**	**36, 38, 42, 44, 46, 58, 136**

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ACCESSORIES

▶ Overview

	Base, 2-channel	Terminal cover, 2-channel	Catch frame, 2-channel
		 Example	
Item no.	03.52.0003.2	01.96.0043.6	03.52.0006.6
EAN code	4010940002718	4010940002749	4010940002763
Time switch technology	√	√	√
suitable for	tactic 372.1 plus tactic 572.1 plus tactic smart C25.1	tactic 372.1 plus tactic 572.1 plus tactic smart C25.1	tactic 372.1 plus tactic 572.1 plus tatic smart C15.1 tatic smart C25.1
Light control suitable for	-	-	-
Temperature control suitable for	-	-	-
Meters suitable for	-	-	-
Page	**42, 44, 46**	**42, 44, 46**	**42, 44**

Sealing glass, 1-channel	Glass	On-wall socket	On-wall socket
			
01.78.0021.6	01.76.0054.6	07.10.0003.1	07.10.0004.1
4010940003210	4010940011215		
√	√	-	-
tactic 372.1 plus tactic 571.1 plus tactic 572.1 plus tatic smart C15.1 tatic smart C25.1	FM/1 STuZH FM/1 QRTuZH FM/1 QRWuZH		
-	-	√	√
		talis II P 360-8-1 talis II P 360-8-2 talis II P 360-20-1 talis II P 360-20-2 talis II P 360-10-1 HF talis II P 360-10-2 HF	talis II P 360-24-1i talis II PHB 360-20-1i talis II PC 40-5-1i
-	-	-	-
-	-	-	-
42, 44	**58**	**82, 84, 92**	**86, 88, 90**

ACCESSORIES

▶ Overview

	Ceiling installation set	Remote control	LF surface-mounted sensor
			
Item no.	07.10.0005.1	07.10.0006.1	07.02.0005.1
EAN code			4010940002671
Time switch technology	-	-	-
suitable for			
Light control	√	√	√
suitable for	talis II P 360-24-1i talis II PHB 360-20-1i talis II PC 40-5-1i	talis II P 360-24-1i talis II PHB 360-20-1i talis II PC 40-5-1i	turnus 501A
Temperature control	-	-	-
suitable for			
Meters	-	-	-
suitable for			
Page	**86, 88, 90**	**86, 88, 90**	**96**

LF flush-mounted sensor	LF cap	Base	Wall-mounted housing
			
07.02.0006.1	07.02.0003.2	15.92.0021.4	50.12.0001.4
4010940016630	4010940029166	4010940002862	4010940002879
-	-	-	-
√	√	-	-
turnus 501 E	turnus 501A turnus 501 E		
-	-	-	-
-	-	√	√
		taxxo 100	taxxo 100
96	**96**	**162**	**162**

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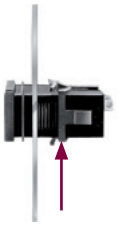
ACCESSORIES

▶ Overview

	Catch frame	Baffle	Seal IP54 for baffle 72 x 72
			
Item no.	15.27.0011.4	05.15.0065.6 55 x 55 16.26.0006.4 72 x 72	11.24.0008.8
EAN code	4010940002886	4010940008802 55 x 55 4010940008819 72 x 72	4010940011253
Time switch technology suitable for	-	-	-
Light control suitable for	-	-	-
Temperature control suitable for	-	-	-
Meters suitable for	√ taxxo 112	√ taxxo 112	√ taxxo 112
Page	**164**	**164**	**164**

Spring clip	Catch frame	Seal IP50	
			
05.20.0026.6	14.27.0002.4	14.24.0001.5	
4010940002961	4010940002985	4010940002992	
-	-	-	
-	-	-	
-	-	-	
√	√	√	
taxxo 612	taxxo 712	taxxo 712	
166	**168**	**168**	

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