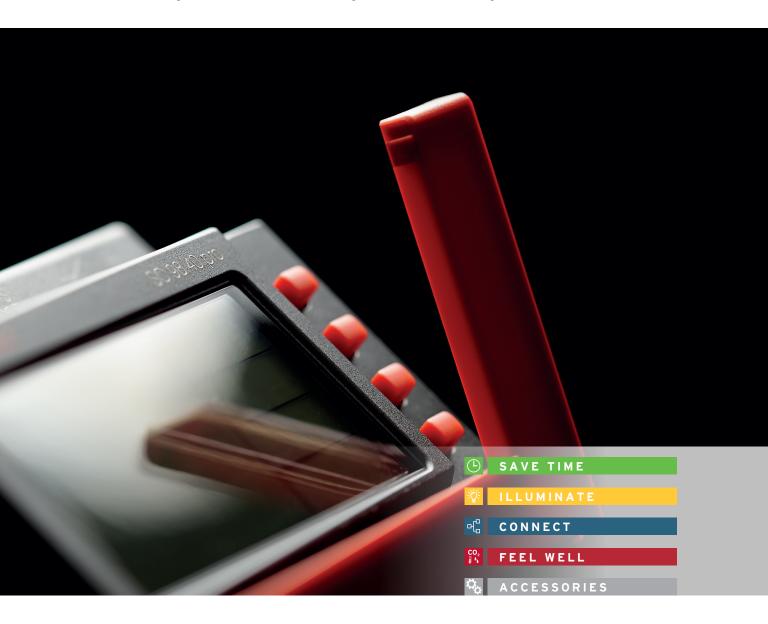
## switching controlling counting



Compact catalogue

2019 | 2020

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#### INNOVATIONAL SPIRIT FROM THE BLACK FOREST

#### 1929 till this day ... and in the future.

The company was founded in 1929 by Hugo Müller. Within a very short time the innovative company had become well known in the locality as a manufacturer of high quality loudspeakers, headphones, radio assembly kits, radios and, some time later, radio time switches.

For Hugo Müller, the change to electronics occurred in 1978, when the first time switch capable of being programmed for a year was introduced to the market. Its success was also virtually pre-programmed – the new product was exceptionally well received.

Today, time switches continue to be an important element of the product range, albeit with features which are subject to continuous improvement. This characteristic reflects the company's objective for the future. The consistent optimization and expansion of the standard product range, including tailormade products to meet individual customers' specific needs.

Our product solution range includes timing devices such as analog and digital timers, master clocks, hour meters, count down timers and light control devices such as analog and digital twilight switches, astronomical time switches, staircase timers, dimmers and also devices for climate control and building automation (KNX).

#### OEM

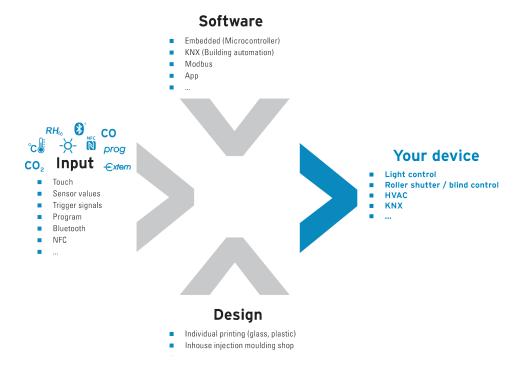
Hugo Müller is your partner whenever you need a customized electro-technical product. We manage the transition from your wishes and vague specifications to well-designed and sellable products.

Hard- and software development, prototyping and serial production are carried-out in our premises. This allows us to advise and support you through the complete development process. Our experts in development and production are efficiently realizing your ideas according to relevant laws, standards and directives. The products are produced with latest technologies and tested with self-made inspection devices. The quality of your product has highest priority.

All products are manufactured in Schwenningen - we offer quality "Made in Germany".

Hugo Müller produces your control and switching devices for time, light, temperature or air quality applications.

For each single problem we'll find a solution. Please contact us, we're happy to talk to you.



#### Save time

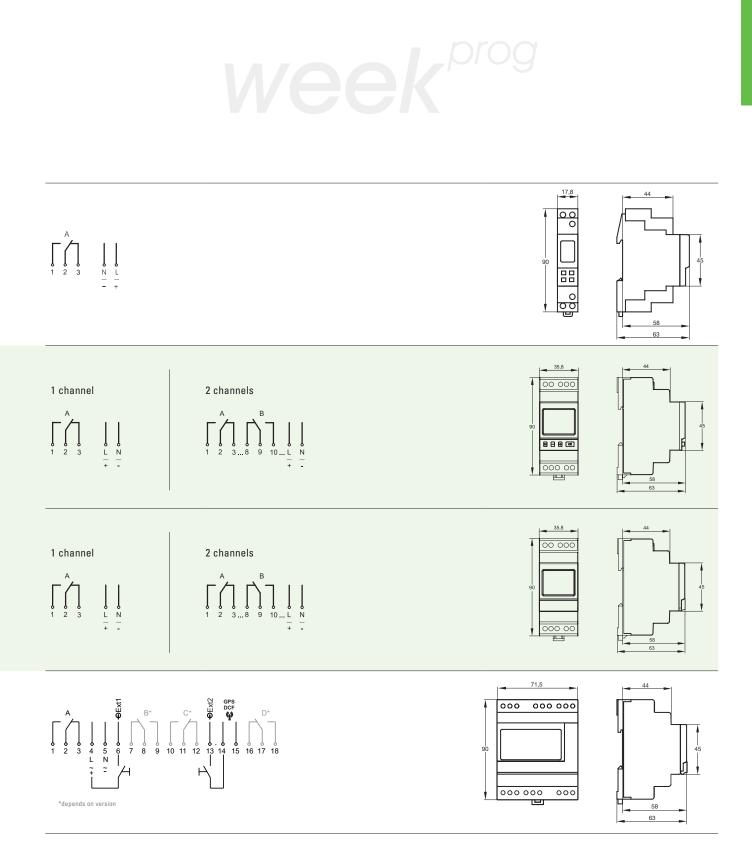
## Digital time switches week for DIN-rail mounting



- Daily and weekly program
- Minimum interval 1 min.
- Permanent by date
- Manual permanent mode
- Manual override
- Variable block programming

- Automatic daylight saving time (Europe, USA, Australia or none)
- Elapsed time and pulse counter
- Pulse function
- Security by PIN-Code
- Text based menu
- Data security through E<sup>2</sup>PROM

<ul> <li>DIN-rail mounting 17.5 mm</li> <li>1 channel / 46 memory locations</li> <li>Switching capacity 16 A</li> <li>6 years battery-reserve</li> <li>Programmable with PC and programming interface</li> <li>Removable programming module</li> </ul>	■ müller SC 08.11 pro VHousing colour	■ paladin <sup>by müller</sup> 172 110 pro	Channels 1
<ul> <li>DIN-rail mounting 35 mm</li> <li>1-2 channels / 56 memory locations</li> <li>Switching capacity 16 A</li> <li>10 years battery-reserve / exchangeable battery</li> <li>Directly programmable with Smartphone (NFC)</li> <li>Ideal for modern lamps (LED)</li> <li>Simple yearly program</li> <li>Illuminated display / Display of the switching program</li> </ul>	■ müller SC 18.10 easy SC 18.20 easy VHousing colour	= paladin by müller 170 410 easy 170 420 easy	Channels
<ul> <li>DIN-rail mounting 35 mm</li> <li>1-2 channels / 100 memory locations</li> <li>Switching capacity 16 A</li> <li>10 years battery-reserve / exchangeable battery</li> <li>Directly programmable with Smartphone (Bluetooth)</li> <li>Ideal for modern lamps (LED)</li> <li>Zero-cross switching (up to 600 W LED load)</li> <li>Simple yearly program</li> <li>Random function / Cycle function</li> <li>Illuminated display / Display of the switching program</li> </ul>	■ m ü l l e r SC 28.11 pro4 SC 28.21 pro4 VHousing colour	■ paladin by müller 172411 pro4 172421 pro4	<b>Dro4</b> Channels
<ul> <li>DIN-rail mounting 70 mm</li> <li>1-4 channels / 300 memory locations</li> <li>Switching capacity 16 A</li> <li>10 years battery-reserve</li> <li>Programmable with PC and Smartphone (see accessories)</li> <li>Data-key function</li> <li>External input / Cycle function</li> <li>DCF / GPS function</li> <li>Up to 300 permanent switchings by date</li> <li>Illuminated display</li> </ul>	■ müller SC 88.10 pro SC 88.20 pro SC 88.30 pro SC 88.40 pro VHousing colour	■ p a l a d i n by müller 179 410 pro 179 420 pro 179 430 pro 179 440 pro	Channels           1           2           3           4



#### Save time

## Digital time switches week - panel, wall and flush mounting

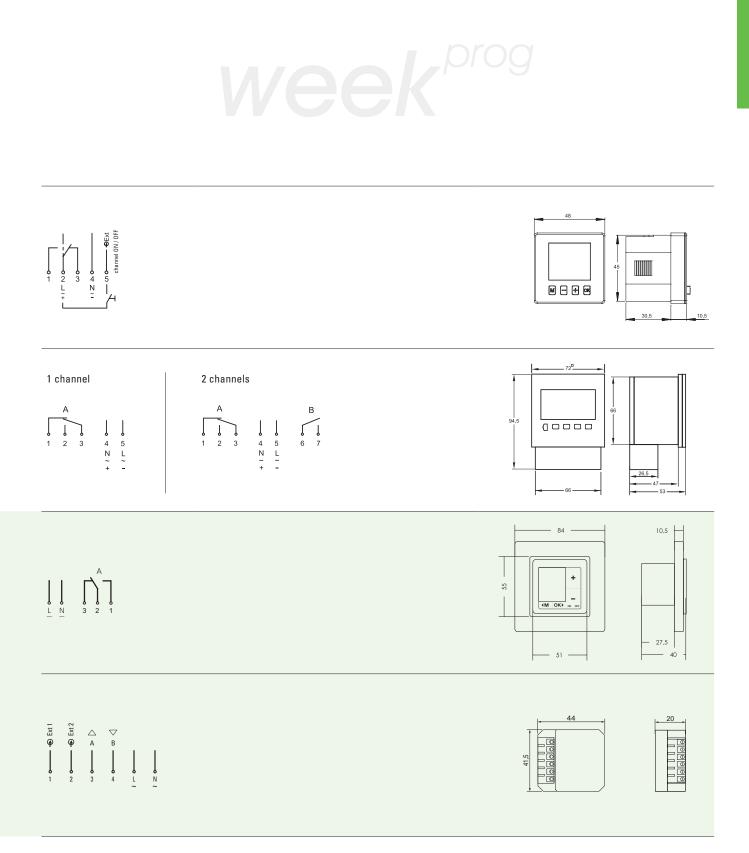
- Daily and weekly program
- Minimum interval 1 min.
- Permanent by date / holiday function
- Manual permanent mode
- Manual override
- Variable block programming

Automatic daylight saving time (Europe, USA, Australia or none)

week

- Elapsed time and pulse counter
- Pulse function
- Security by PIN-Code
- Text based menu
- Data security through E<sup>2</sup>PROM

	<ul> <li>Switchboard panel mounting</li> <li>1 channel / 46 memory locations</li> <li>Switching capacity 8 A</li> <li>4 years battery-reserve</li> <li>External input</li> </ul>	■ m ü l l e r <sup>7</sup> SC 24.10 pro <sup>7</sup> P Housing colour	Channels 1
Tis.e6.2918 • •A Hontas 9:28 as	<ul> <li>Switchboard panel and wall mounting</li> <li>1-2 channels / 46 memory locations</li> <li>Switching capacity 16 A</li> <li>10 years battery-reserve</li> <li>Programmable with PC and Smartphone (see accessories)</li> <li>Data-key function</li> <li>Illuminated display</li> </ul>	■ m ü l l e r SC 44.11 pro SC 44.21 pro PHousing colour	Channels 1 2
(INFC (INFC))	<ul> <li>Flush-mounted fitting</li> <li>1 channel / 56 memory locations</li> <li>Switching capacity 10 A</li> <li>10 years battery-reserve</li> <li>Directly programmable with Smartphone (NFC)</li> <li>Ideal for modern lamps (LED)</li> <li>Simple yearly program</li> <li>Illuminated display / Display of the switching program</li> <li>Can be used with many common switch programs</li> </ul>	■ paladin by müller 173 110 easy Mousing colour	Channels
	<ul> <li>Flush-mounted fitting</li> <li>Universal control unit <ul> <li>Blinds control</li> <li>Time switch (week or astro)</li> </ul> </li> <li>2 channels / 100 memory locations</li> <li>Switching capacity 6 A</li> <li>10 years battery-reserve</li> <li>Directly programmable with Smartphone (Bluetooth)</li> <li>Range of 50m</li> </ul>	■ m ü l l e r FA 36.22 pro4	pro4 Channels 2



#### Save time

# Digital actro

- Digital time switches astro
- Astro program: Automatic switching according to the position of the sun
- Economical night program
- Minimum interval 1 min.
- Manual permanent mode
- Manual override

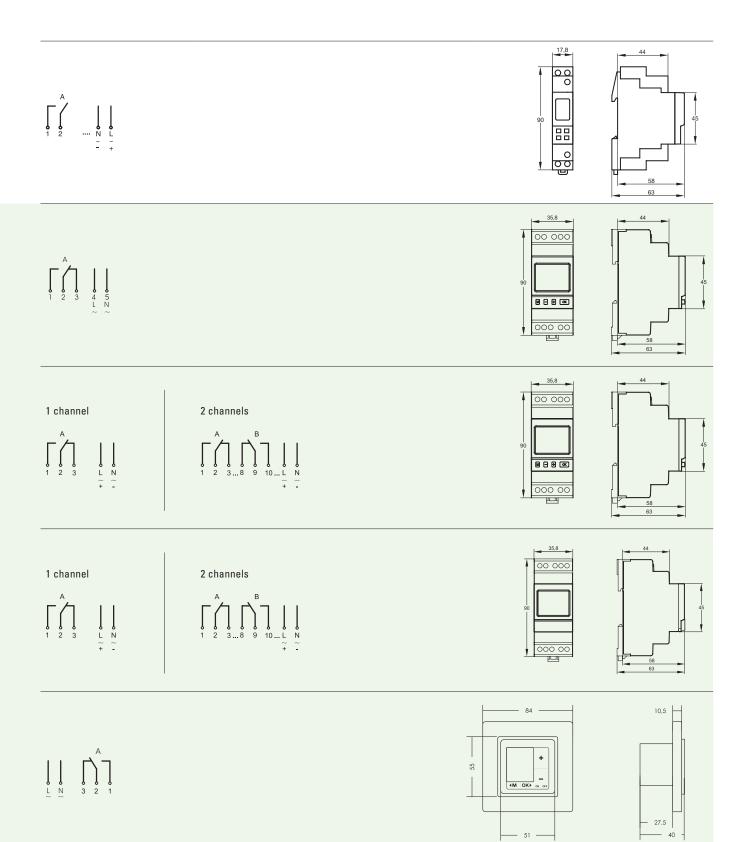
- Automatic sorting of switching times
- Automatic daylight saving time (Europe, USA, Australia or none))

astr-X-

- Security by PIN-Code
- Ideal for modern lamps (LED, CFL, etc.)
- Data security through E<sup>2</sup>PROM

	<ul> <li>Digital time switch astro with weekly program</li> <li>DIN-rail mounting 17.5 mm</li> <li>1 channel / 60 memory locations</li> <li>Switching capacity 16 A</li> <li>6 years battery-reserve</li> <li>Programmable with PC and programming interface</li> <li>Removable programming module</li> <li>Extra switching times (weekly time function)</li> </ul>	■ müller SC 08.13 pro PHousing colour	■ paladin by müller <sup>17</sup> 172 113 pro	Channels 1
(INFC))	<ul> <li>Digital time switch astro with daily program</li> <li>DIN-rail mounting 35 mm</li> <li>1 channel / 4 memory locations</li> <li>Switching capacity 16 A</li> <li>10 years battery-reserve / exchangeable battery</li> <li>Directly programmable with smartphone (NFC)</li> <li>Illuminated display</li> <li>Display of the switching program</li> </ul>	■ m ü l l e r SC 18.13 easy FV Housing colour	≡paladin bymüller <sup>17</sup> 170413easy	Channels
(INFC))	<ul> <li>Digital time switch astro with weekly program</li> <li>DIN-rail mounting 35 mm</li> <li>1-2 channels / 56 memory locations</li> <li>Switching capacity 16 A</li> <li>10 years battery-reserve / exchangeable battery</li> <li>Directly programmable with smartphone (NFC)</li> <li>Extra switching times (weekly timer function)</li> <li>Illuminated display / Display of the switching program</li> </ul>	■ m üller SC 18.14 easy SC 18.24 easy VHousing colour	■ patadin by müller 170 414 easy 170 424 easy	Channels
	<ul> <li>Digital time switch astro with weekly program</li> <li>DIN-rail mounting 35 mm</li> <li>1-2 channels / 100 memory locations</li> <li>Switching capacity 16 A</li> <li>10 years battery-reserve / exchangeable battery</li> <li>Directly programmable with Smartphone (Bluetooth)</li> <li>Zero-cross switching (up to 600 W LED load)</li> <li>Extra switching times (weekly timer function)</li> <li>Illuminated display / Display of the switching program</li> </ul>	■ m ü l l e r SC 28.13 pro4 SC 28.23 pro4 VHousing colour	■ paladin by müller 172 413 pro4 172 423 pro4	<b>Dro4</b> Channels
	<ul> <li>Digital time switch astro with weekly program</li> <li>Flush-mounted fitting</li> <li>1 channel / 56 memory locations</li> <li>Switching capacity 10 A</li> <li>10 years battery-reserve</li> <li>Directly programmable with Smartphone (NFC)</li> <li>Extra switching times (weekly timer function)</li> <li>Illuminated display / Display of the switching program</li> <li>Can be used with many common switch programs</li> </ul>	= paladin by müller 713 113 easy 7 Housing colour		easy Channels





## Save time

## year

- Digital year
- Daily, weekly and yearly program

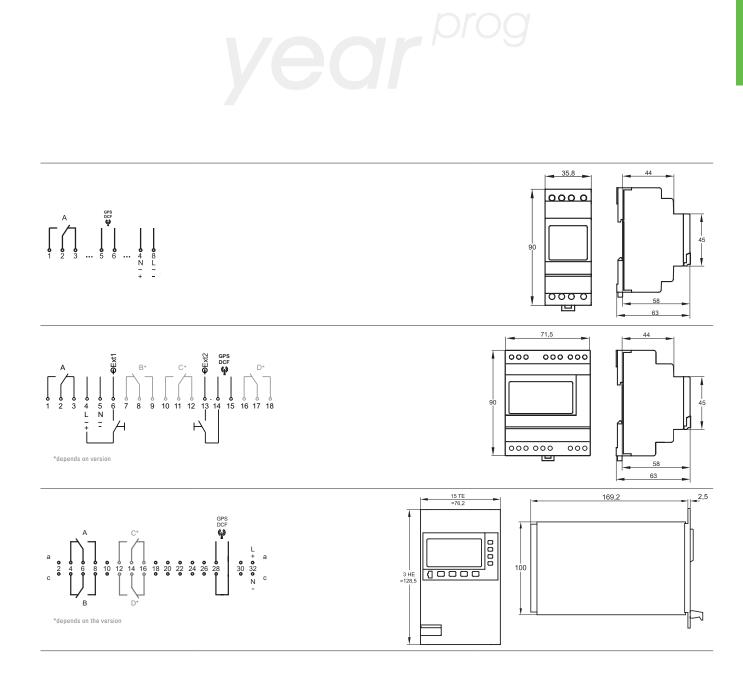
Digital time switches year

- Yearly program with Easter function, Weekday function and extra-switching time function
- Minimum interval 1 min.
- Permanent by date / holiday function
- Manual permanent mode
- Manual override
- Variable block programming

- Automatic daylight saving time (Europe, USA, Australia or none)
- Elapsed time and pulse counter
- Pulse function
- Security by PIN-Code
- Text based menu
- Illuminated display
- Data security through E<sup>2</sup>PROM

<ul> <li>10 years battery-reserve</li> <li>Programmable with PC and Smartph</li> <li>Data-key function</li> <li>Cycle function</li> <li>DCF / GPS function</li> <li>Up to 300 permanent switchings by compared by the second se</li></ul>		■ m üller SC 28.19 pro V Housing colour	■ paladin by müller 172 419 pro	Channels 1
<ul> <li>DIN-rail mounting 70 mm</li> <li>1-4 channels / 300 memory locations</li> <li>Switching capacity 16 A</li> </ul>	5	∎müller	■paladin by müller	Channels
= 10 years battery-reserve		SC 98.10 pro	179 610 pro	1
Is the second seco	(see accessories)	SC 98.20 pro	179 620 pro	2
Data-key function		SC 98.30 pro	179 630 pro	3
External input / Cycle function		SC 98.40 pro	179 640 pro	4
<ul> <li>DCF / GPS function</li> <li>Up to 300 permanent switchings by compared to the second secon</li></ul>	date	Housing colour		
<ul> <li>19"-housing</li> <li>2 or 4 channels / 300 memory locatio</li> </ul>	ons			
Switching capacity 5 A 10 years battery-reserve		∎müller		Channels
Programmable with PC and Smartph	none (see accessories)	SC 93.20 pro		2
Data-key function		SC 93.40 pro		4
Cycle function		Housing colour		
<ul> <li>DCF / GPS function</li> </ul>				
■ Up to 300 permanent switchings by c	date			

## h u g o m ü l l e r



#### Save time

## Masterclocks for DIN-rail mounting

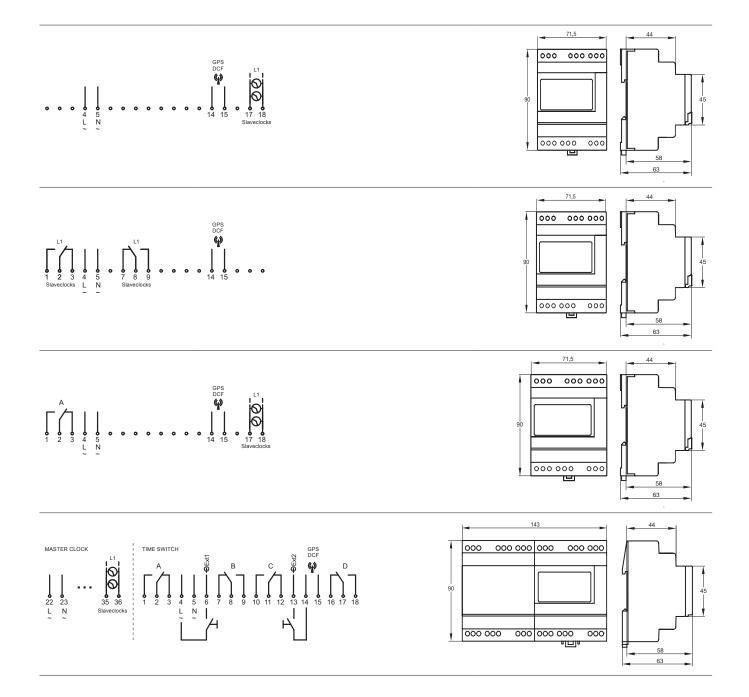
- Short-circuit proof slave-clock-line
- Automatic adjustment of slave clocks
- Automatic time correction of slave clocks after supply voltage interruption
- Automatic daylight saving time (Europe, USA, Australia or none) with 60 additional pulses or pulse suppression for 1 hour of the slave-clock-line
- Monitoring of slave-clock-line and malfunction indicator in display

masterclocks

- Security by PIN-Code
- Illuminated display
- DCF/GPS function
- 10 years battery-reserve (time switch)
- Data security through E<sup>2</sup>PROM

A CONTRACTOR OF	<ul> <li>DIN-rail mounting 70 mm</li> <li>1 slave-clock line for approx. 5 slave clocks (24 VDC, 35 mA, pole changing pulse)</li> </ul>	■ müller SC 58.07 pro Mousing colour	Slave clock lines	Channels 
	<ul> <li>DIN-rail mounting 70 mm</li> <li>1 slave-clock line for slave clocks up to 250 V~</li> <li>A pulse amplifier is not needed</li> </ul>	■ m ü l l e r SC 58.08 pro P Housing colour	Slave clock lines 1	Channels –
WEEK Prog	<ul> <li>DIN-rail mounting 70 mm</li> <li>1 slave-clock line for approx. 20 slave clocks (24 VDC, 150 mA, pole changing pulse)</li> <li>Time Switch: Weekly timer / 1 channel [similar to SC 88.10 pro]</li> </ul>	■müller SC 58.17 pro P <sup>r</sup> Housing colour	Slave clock lines	Channels 1
Prog	<ul> <li>DIN-rail mounting 140 mm</li> <li>1 slave-clock line for approx. 40 slave clocks (24 VDC, 300 mA, pole changing pulse)</li> <li>Time Switch: Yearly timer / 4 channels [similar to SC 98.40 pro]</li> </ul>	■müller SC98.47 pro	Slave clock lines 1	Channels 4





#### Save time

## Masterclocks pluggable into 19"-housing

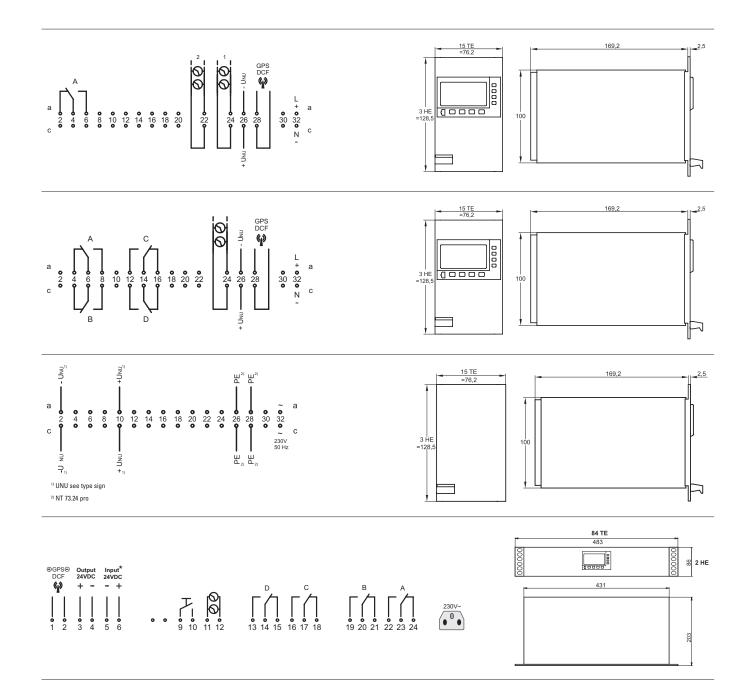
- Short-circuit proof slave-clock-line
- Automatic adjustment of slave clocks
- Automatic time correction of slave clocks after supply voltage interruption
- Automatic daylight saving time (Europe, USA, Australia or none) with 60 additional pulses or pulse suppression for 1 hour of the slave clock-line
- Monitoring of the slave-clock-line and malfunction indicator in display

masterclocks |

- Security by PIN-Code
- Illuminated display
- DCF / GPS function
- 10 years battery-reserve (time switch)
- Data security through E<sup>2</sup>PROM

week <sup>prog</sup>	<ul> <li>15 TE / 3 HE [128.5 x 76.2 mm]</li> <li>2 slave-clock output-lines for approx. 200 slave clocks (24 VDC, 1,5 A, pole changing pulse)</li> <li>Output-line 2 adjustable to a pulse repetition rate of one per sec.</li> <li>Ext. 24 VDC power supply unit required / power supply unit for slave clocks not included</li> <li>Time Switch: Weekly timer / 1 channel [Functions similar to SC 88.10 pro]</li> </ul>	■ müller SC 53.17 pro V Housing colour	Slave clock lines 2	Channels 1
year prog	<ul> <li>15 TE / 3 HE [128.5 x 76.2 mm]</li> <li>1 slave-clock output-line for approx. 200 slave clocks (24 VDC, 1,5 A, pole changing pulse)</li> <li>Ext. 24 VDC power supply unit required / power supply unit for slave clocks not included</li> <li>Time Switch: Yearly timer / 4 channels [Functions similar to SC 98.40 pro]</li> </ul>	■ m üller SC 93.47 pro PV Housing colour	Slave clock lines 1	Channels 4
0 0 NT73 •müller	<ul> <li>15 TE / 3 HE [128.5 x 76.2 mm]</li> <li>Accessory for 19"master clocks</li> <li>Power supply 19"-housing</li> <li>Power supply of slave clocks</li> <li>Output current 1.5 A</li> </ul>	■ m üller NT 73.24 pro NT 73.64 pro VHousing colour	<b>power back-up</b> without with	Output voltage 24 V DC 24 V DC
year prog	<ul> <li>84 TE / 2 HE [483 x 86 x 203 mm]</li> <li>1 slave-clock output-line for approx. 200 slave clocks (24 VDC, 1,5 A, pole changing pulse)</li> <li>No extra power supply unit needed / integrated 24 VDC power supply unit</li> <li>Frontswitch (potential-free) can be used to control an arbitrary application</li> <li>Time Switch: Yearly timer / 4 channels [Functions similar to SC 98.40 pro]</li> </ul>	■ müller SC 95.47 pro F <sup>F</sup> Housing colour	Slave clock output line	s Channels 4





#### **:** h u g o **m ü l l e r**

### Save time

## Analogue

Analogue time switches



- Daily or weekly program
- Manual override switch [Permanent ON / Permanent OFF / Automatic]
- Timers with power back-up: Power reserve approx. 100 h
- Captive setting keys
- Easy to read switching program



- DIN-rail mounting 17.5 mm
- Daily program
- Switching capacity 16 A
- Minimum switching interval 15 min.

∎ <b>paladin</b> by mülle	müller	Version
<sup>II</sup> 111 120	VS 10.18	Day without reserve
114 120	VS 14.18	Day with reserve
Housing colour	Setting key colour	



- DIN-rail mounting 35 mm and wall mounting
- Daily program
- D Switching capacity 16 A
- Minimum switching interval 30 min.
- Minute pointer

∎paladin by mülle	<sub>ar</sub> ∎müller	Version
<b>1</b> 51 220	VS 20.18	Day without reserve
▲ 154 220	VS 24.18	Day with reserve
Housing colour	Setting key colour	



- DIN-rail mounting 52.5 mm and wall mounting
- Daily or weekly program
- Switching capacity 16 A
- Minimum switching interval day dial 30 min.
- Minimum switching interval week dial 2 h.
- Analogue display [with hands]

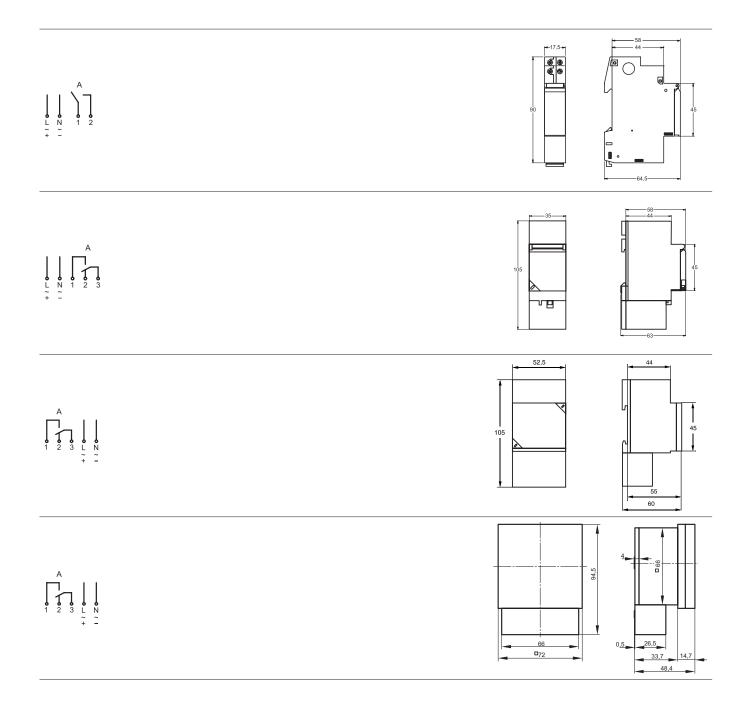
<b>∎paladin</b> by mülle	müller	Version
<sup>II</sup> 131 120	VS 30.18	Day without reserve
<sup>II</sup> 134 120	VS 34.18	Day with reserve
<sup>II</sup> 131 420	VS 30.38	Week without reserve
<sup>II</sup> 134 420	VS 34.38	Week with reserve
Housing colour	Setting key colour	



- Switchboard panel and wall mounting
- Daily or weekly program
- Switching capacity 16 A
- Minimum switching interval day dial 15 min.
- Minimum switching interval week dial 1 h.
- Analogue display [with hands]

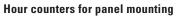
<b>∎paladin</b> by mülle	, ∎müller	Version
<sup>II</sup> 161 120	FS 60.18	Day without reserve
<b>1</b> 64 120	FS 64.18	Day with reserve
<sup>II</sup> 161 420	FS 60.38	Week without reserve
<sup>II</sup> 164 420	FS 64.38	Week with reserve
Housing colour	Setting key colour	





### Save time

## Hour counters



- Alternating Current or Direct Current versions
- With universal connections
- Touch proof connections according to VBG 4

#### Hour counters for DIN-rail mounting

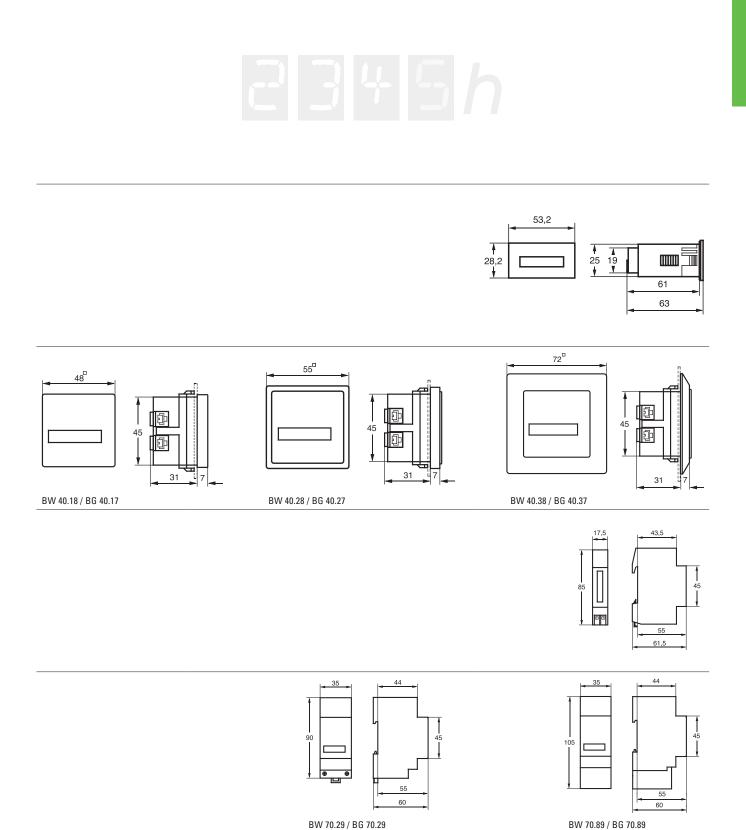
Alternating Current or Direct Current versions

2345h

- Screw terminals (pull-up type)
- Touch proof connections according to VBG 4

-mailer In D.D.D.B.E. h	<ul> <li>Panel mounting</li> <li>Integral locking spring</li> <li>Mounting aperture: 50x25 mm</li> <li>Counter capacity 99,999 h.</li> <li>With operation indicator</li> <li>Type of protection front IP 65</li> </ul>	■ m üller BW 30.18 BG 30.18 PHousing colour	Vers Alternating curr Direct curr
with trin 55x55 mm         with trin 55x55 mm         with trin 55x55 mm         with trin 55x52 mm         w	<ul> <li>Panel mounting</li> <li>Retaining Clip in delivery included</li> <li>Mounting aperture square: 45x45 mm</li> <li>Mounting aperture circle: ø 50,5 mm</li> <li>Counter capacity BW 99,999 h.</li> <li>Counter capacity BG 999,999 h.</li> <li>With operation indicator</li> <li>Type of protection front IP 50 (with ring seal 100.003: IP 54)</li> </ul>	■ m üller BG 40.17 BW 40.18 BG 40.27 BW 40.28 BG 40.37 BW 40.38 PHousing colour	Vers Direct curr Alternating curr Direct current, with trim 55x55 Alternating current, with trim 55x55 Direct current, with mask 72x72 r Alternating current, with mask 72x72 r
	<ul> <li>DIN-rail mounting 17,5 mm</li> <li>Flush mount dimensions 45x17,5 mm</li> <li>Slim format</li> <li>No terminal cover</li> <li>Counter capacity 99,999 h.</li> <li>With operation indicator</li> <li>Type of protection IP 50</li> </ul>	■ m ü l l e r BW 70.18 BG 70.18 F Housing colour	■ paladin Vers <sup>by müller</sup> Vers <sup>17</sup> 311 170 Alternating curr <sup>17</sup> 312 170 Direct curr
	<ul> <li>DIN-rail mounting 35 mm</li> <li>Flush mount dimensions 45x35 mm</li> <li>Bx 70.29: without terminal cover</li> <li>Bx 70.89: with terminal cover</li> <li>One Version for 50 and 60 Hz</li> <li>Counter capacity 99,999 h.</li> <li>With operation indicator (flashing LED)</li> <li>Type of protection IP 50</li> </ul>	■ m ü l l e r BW 70.29 BG 70.29 BW 70.89* BG 70.89* BG 70.89*	■ paladin by müller 311 270 Alternating curr 312 270 Direct curr 311 280* Alternating curr 312 280* Direct curr *with terminal

#### switching controlling counting



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#### **:** h u g o **m ü i i e r**

#### Save time

## Countdown timers ⊘

- 1 channel / change-over relay
- Minimum interval 1 sec.
- Input for start and stop (230 VAC)
- Optical and acoustic signal on completion of time

## Digital multifunctional relays

- 1 channel / change-over relay
- Minimum interval 0.1 sec.
- External input
- 20 different functions
- Extended range of functions
- Data security through E<sup>2</sup>PROM



- Timer
- Panel mounting
- Switching capacity 8 A
- Max. time TC 14 9:59:59 h:mm:ss
- Max. time TC 24 99:59:59 hh:mm:ss
- Repeatability accuracy 100%
- Different trims available (see accessories)

∎müller	Range
TC 14.21	9:59:59 h:mm:ss
TC 24.21	99:59:59 hh:mm:ss
Housing colour	

- Digital multifunctional relay
- DIN-rail mounting 35 mm
- Switching capacity 16 A
- Time range 000:00:00:1 to 999:59:59:9 hhh:mm:ss:1/10s

∎müller	Range
MR 28.10 pro	999:59:59:9 hhh:mm:ss:1/10s
Housing colour	

staircase

#### llluminate

## Staircase lighting timers

- Manual override for timed or permanent lighting
- 3- or 4-conductor cabling
- Resettable
- Staircase ligh
- Time delay: 284 210: 30 sec. to 10 min. 284 250: 1 min. to 12 min.

- Glow lamp load: up to 100 mA
- 284 250: Advanced warning function included
- Zero-cross switching for relay-saving switching

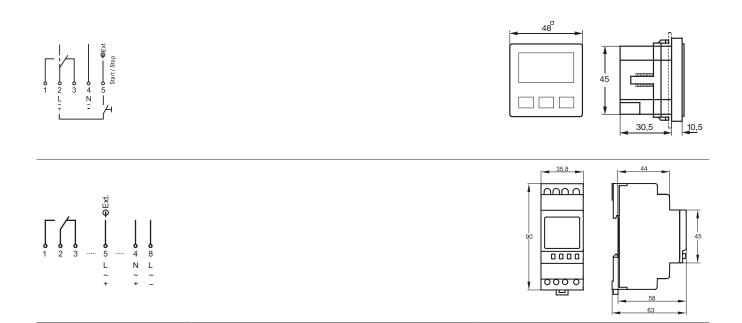


- Staircase lighting timer
- Electronic
- DIN-rail mounting 17.5 mm
- Switching capacity 16 A
- Zero-cross switching

∎paladin bymüller	Special function	Time delay
284 210		30 sec. to 10 min.
284 250	Advance warning	1 min. to 12 min.
Housing colour		

#### switching controlling counting









#### **:** h u g o m ü l l e r

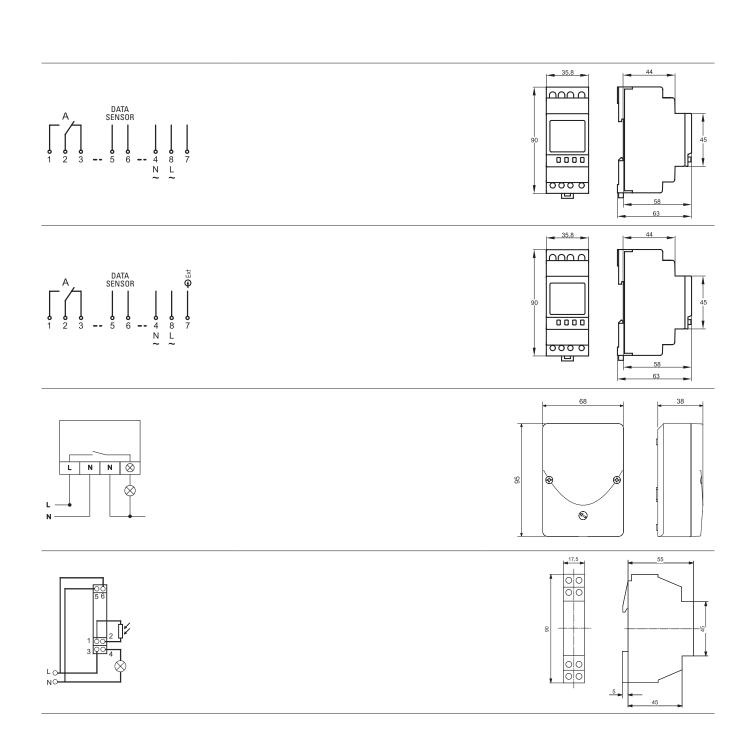
#### <u> III u minate</u>

#### **Twilight switches**

## lux

#### **Digital twilight switches** Analogue twilight switches Suitable for modern lamps (LED, CFL, etc.) Suitable for modern lamps (LED, CFL, etc.) Adjustable lux threshold Adjustable lux threshold Adjustable delay times Data security through E<sup>2</sup>PROM Adjustable light-hysteresis With weekly timer function (e.g. for energy saving) .... Digital twilight switch DIN-rail mounting 35 mm Channels ■paladin by müller 180620 18 1<u>0N 7 8</u>5 Switching capacity 16 A 9:28 . 972 413 pro 1 Adjustable lux threshold 1–50,000 Lux Twilight switch with daily program Permanent switchings by date Digital twilight switch .... DIN-rail mounting 35 mm Switching capacity 16 A 180620 18 10111786 Adjustable lux threshold 1–50,000 Lux ∎paladin by müller Channels Twilight switch with daily, weekly and yearly program 972 414 pro 9:28:0 1 1 Housing of Permanent switchings by date Programmable with PC and and Smartphone (see accessories) External input Analogue twilight switch ■paladin by müller Channels Wall mounting 922 000 1 Switching capacity 16 A Adjustable lux threshold 3–300 Lux ■paladin by müller Analogue twilight switch Channels Sensor DIN-rail mounting 17.5 mm 923 500 sensor for wall mounting 1 sensor for sensor for mounting vall mounting within housing Switching capacity 16 A 923 501 sensor for mounting within housing 1 Housing of Adjustable lux threshold 1–1,000 Lux

## :hugo<mark>müller</mark>



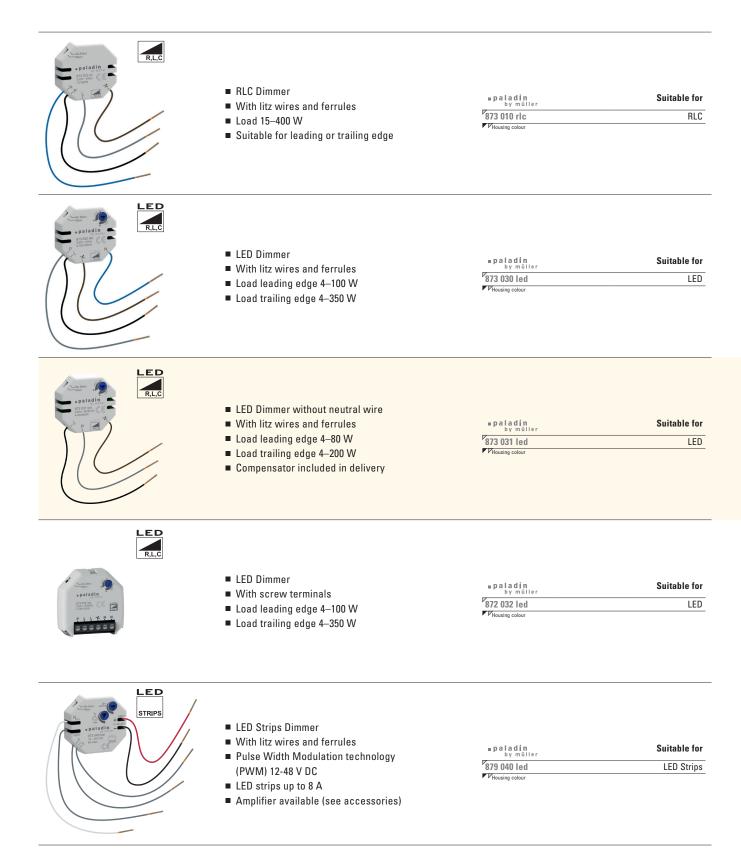
#### **:** h u g o **m ü i i e r**

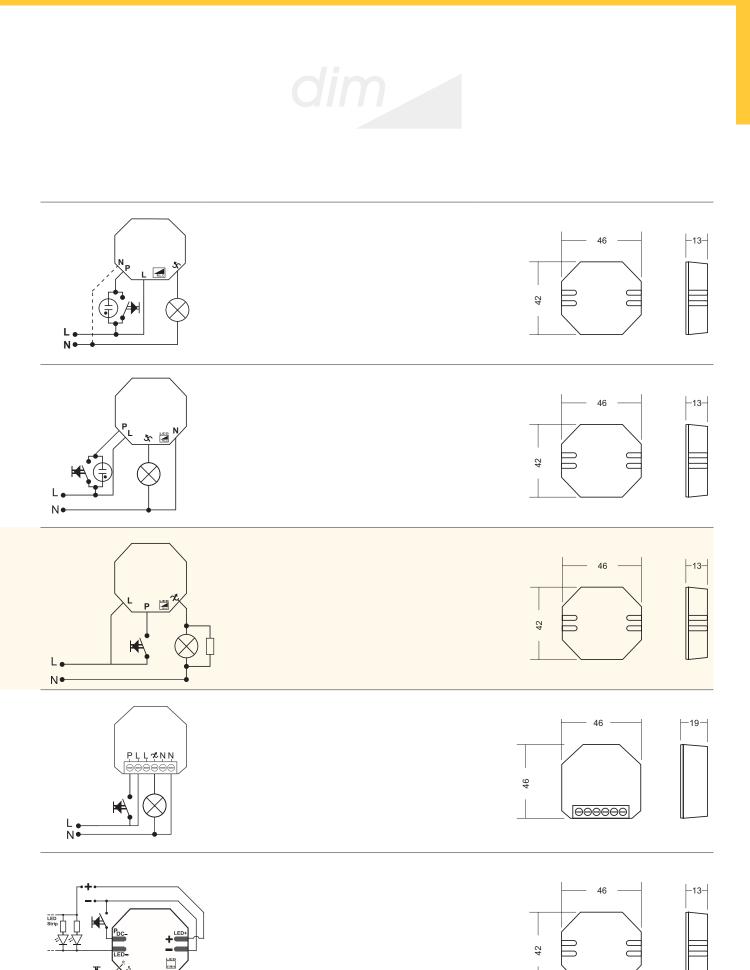
#### Illuminate

## Dimmers for flush-mounted fitting



- For pushbuttons
- Installation in standard boxes behind a pushbutton possible
- Small design (13 mm)
- Easy to connect
- Memory function
- Protection against overload, short circuit and overheat





#### Illuminate

## immers

Dimmers for DIN-rail mounting



- Universal dimmer or TRIAC Dimmer
- Master-Slave-function: With the inclusion of further dimmers higher loads can be controlled with one single pushbutton connection (Master)
- Memory function
- Protection against overload, short circuit and overheat

••••• •••• •••• •••• •••• ••••	UNIVERSAL	<ul> <li>LED Dimmer / Universal Dimmer</li> <li>DIN-rail mounting 17.5 mm</li> <li>LED-Load leading edge 4–100 W</li> <li>LED-Load trailing edge 4–350 W</li> </ul>	■ p a l a d i n by müller 7872 110 led 77Housing colour	Suitable for RLC, LED & CFL
- paladin esere	R,L	<ul> <li>TRIAC Dimmer for dimmable LED lamp</li> <li>DIN-rail mounting 87.5 mm</li> <li>Up to 1,200 W peak load per dimmer</li> <li>For leading edge</li> <li>Further functions for a flexible usage: Potentiometer (internal or external), pushbutton operation, 0–10 V signal</li> </ul>	■ Paladin by müller 879 410 led Mousing colour	Suitable for

17,5

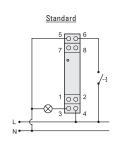
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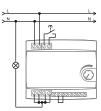
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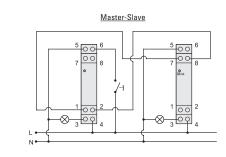
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<u>Standard</u>

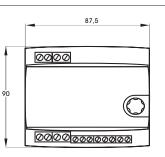


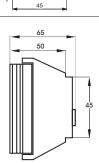


Further installation options

 Operation with pushbutton, includes control of slaves (Master-Slave installation)

- Operation with potentiometer (internal / external)
- Operation with 0–10 V signal
- 3-phase-installation controlled by potentiometer and extension with slaves





55

#### h u g o m ü l l e r

#### Connect

## KNX-TP Universal interfaces for flush-mounted fitting



- ETS with many advantages:
  - Simple programming and operation
  - Various adjustment and control options
  - Logical, simple and clearly structured software
- Compact housing



3 binary inputs (configurable)
2 binary outputs (LED drivers / open-collector)

Integrated room temperature control

External temperature sensor available (see accessories)

∎müller	Inputs	Outputs
EA 36.32 knx	3	2
Housing colour		

KNX-TP

## KNX-TP Time switches for DIN-rail mounting



- ETS with many advantages:
  - Simple programming and operation
  - Various adjustment and control options
  - Logical, simple and clearly structured software
- DCF reception via optional DCF receiver



- Digital time switch year
- DIN-rail mounting 70 mm
- 4 channels / 300 memory locations
- Daily, weekly and yearly program
- Programmable with PC and Smartphone (see accessories)
- Data-key function (see accessories)

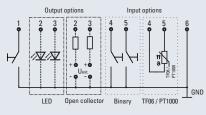
∎müller	Channels
SC 98.40 knx	4
Housing colour	

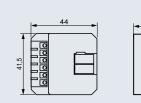
#### switching controlling counting



## Following functions and data available via KNX bus:

- Binary inputs / push-button interface (switching, dimming, temperature probe/-limiter, etc.)
- Binary outputs
- Temperature control





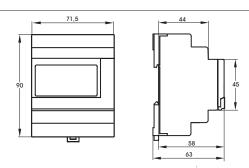
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#### switching controlling counting



Following functions and data available via KNX bus:

- Time dependent switching (switching, valuator, scene control, HVAC,...)
- Logic gates
- Time standard



## :hugo<mark>müller</mark>

### Conne<u>ct</u>

## KNX-TP Outdoor sensors for wall mounting



- Sensors suitable for outdoor use (IP 54)
- Ideal for use as twilight switches
- Wall mounting

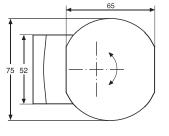
- MARCEL AND	<ul> <li>Light-/brightness sensor</li> <li>Lighting control</li> <li>Daily time switch</li> </ul>	■ müller <sup>7</sup> LS 20.00 knx <sup>977</sup> Housing colour	Sensor Lux
	<ul> <li>Light and temperature sensor</li> <li>Lighting and temperature control</li> <li>Daily time switch</li> </ul>	■ m üller <sup>7</sup> LS 30.00 knx <sup>7</sup> V Housing colour	Sensor Lux, T
-mailer -mailer - KRR	<ul> <li>GPS Sensorstation</li> <li>Lighting and temperature control</li> <li>Daily and astro time switch</li> <li>Provides time base to KNX bus</li> </ul>	■ m ü l l e r FU 40.00 knx FV Housing colour	Sensor GPS, Lux, T

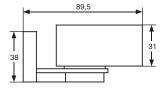
#### switching controlling counting



#### Following functions and data available via KNX bus:

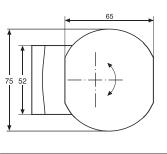
- Time switch (standard)
- Light control

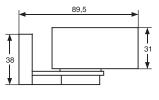




Following functions and data available via KNX bus:

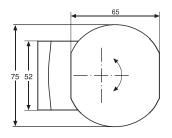
- Time switch (standard)
- Light control
- Temperature control

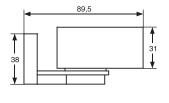




Following functions and data available via KNX bus:

- Time switch (standard)
- Time switch (astro)
- Light control
- Temperature control
- GPS coordinates and sunlight-data
- Time standard





#### **:** h u g o **m ü l l e r**

#### Connect

## KNX Room temperature-/room climate controls for wall mounting

- KNX-TP
- Products for KNX installations
- Room temperature- and room climate controls (air quality sensors) for indoor use
- Compact housing (wall-mounting)

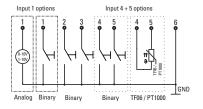
- Various functions and options configurable via ETS (depending on model):
  - Threshholds for temperature, humidity, CO<sub>2</sub>-concentration
  - PI- and 2-point control

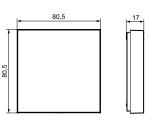
müllen Temperature control Version ∎müller Sensor Sensor for temperature measurement TS 30.10 knx т Up to 5 binary and analogue inputs <sup>7</sup>TS 31.10 knx T manual ±3° Additional function TS 31.10 knx: Manual adjustment of set-point temperature ±3°C TS 31.10 knx Temperature control and hygrostat Sensors for temperature, humidity and Version Sensor müller atmospheric pressure measurement GS 30.10 knx RH, T Up to 5 binary and analogue inputs <sup>6</sup>GS 31.10 knx T manual ±3° RH, T Additional function GS 31.10 knx: Manual adjustment of set-point temperature ±3°C GS 31.10 knx Air quality sensor / air quality control ∎müller Version Sensor Sensors for CO<sub>2</sub>, temperature, humidity and GS 40.00 knx CO<sub>2</sub>, RH, T atmospheric pressure measurement GS 41.00 knx T manual ±3° CO<sub>2</sub>, RH, T Additional function GS 41.00 knx: Manual adjustment of set-point temperature ±3°C GS 41.00 knx Air quality sensor & control Sensors for CO<sub>2</sub>, temperature, humidity and Version ∎müller Sensor atmospheric pressure measurement GS 40.10 knx CO<sub>2</sub>, RH, T Up to 5 binary and analogue inputs GS 41.10 knx T manual ±3° CO<sub>2</sub>, RH, T Additional function GS 41.10 knx: RN Manual adjustment of set-point temperature ±3°C GS 41.10 knx



#### Following functions and data available <u>via KNX bus:</u>

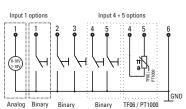
- Temperature control
- Binary and analogue inputs

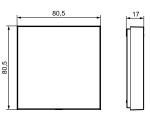




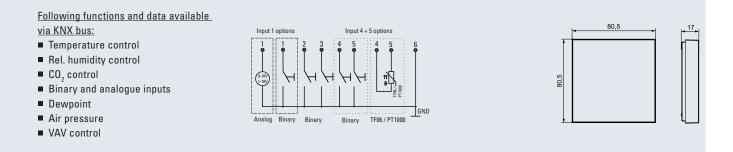
Following functions and data available via KNX bus:

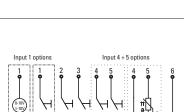
- Temperature control
- Rel. humidity control
- Binary and analogue inputs
- Dewpoint
- Air pressure
- VAV control





Following functions and data available 80,5 via KNX bus: Temperature control Rel. humidity control 80,5 CO, control Dewpoint Air pressure VAV control





#### Connect

## KNX Carbon monoxide detector / CO sensor for wall mounting



- Product for KNX installations
- CO sensor
- Compact housing (wall-mounting)

- Various functions and options configurable via ETS:
  - Threshholds for temperature, humidity, CO-concentration
  - PI- and 2-point control

• **на 111 е п** • волоса • полоса • полоса

KNX carbon monoxide sensor / CO sensor
CO-, temperature- and humidity sensor

. ,	∎ müller	
dity sensor		

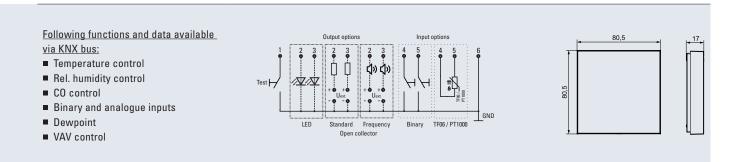
2 binary in- / outputs

Not suitable for use in safety-related applications

∎müller	Sensor
GS 80.22 knx	CO, RH, T
Housing colour	

#### switching controlling counting





# Connect

# KNX Dimmers for DIN-rail mounting



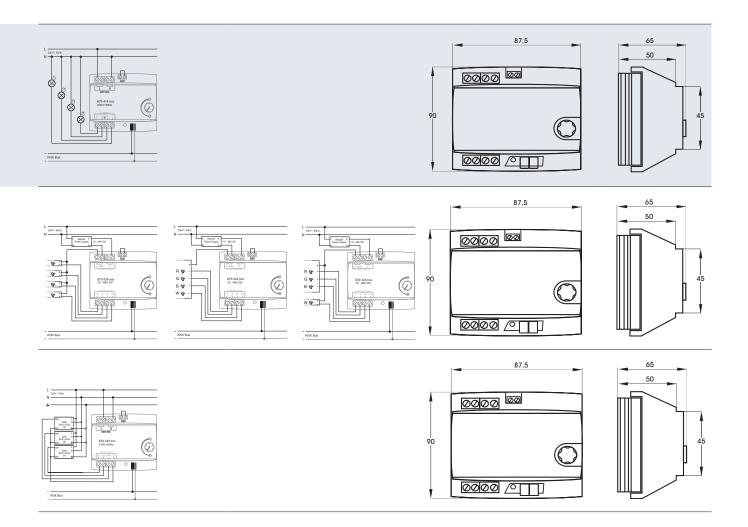
- Products for KNX installations
- Panic funktion
- Memory function
- Protection against overload, short circuit and overheat
- Control knob for dimming function test
   even without KNX-bus connected
- DIN-rail mounting 87,5 mm

<ul> <li>Dimming actuator for RLC and LED</li> <li>4 channels with up to 300 W per channel</li> <li>Channels are independantly controllable / dimmable</li> <li>Up to 1200 W total load</li> <li>Leadingedge / trailing edge dimming</li> </ul>	■ paladin by müller 7879 414 knx 7 PHousing colour	Suitable for RLC & LED
<ul> <li>Dimming actuator for dimmable RGBW LED strips</li> <li>4 channels with up to 10 A per channel</li> <li>Configurable as 4 single colored LED strips dimmer</li> <li>RGB + W or RGBW LED strips</li> <li>Pulse width modulation (PWM)</li> <li>12 - 48 V DC</li> </ul>	■ paladin by müller 17879 424 knx 17 WHousing colour	Suitable for LED Strips
<ul> <li>Dimming actuator / DALI gateway for DALI drivers and ballasts (ECG's)</li> <li>3 channels up to 64 devices per channel</li> <li>Max. 128 devices in total</li> <li>Broadcast communication</li> <li>1 group per channel</li> </ul>	■ paladin by müller 879 443 knx MHousing colour	Suitable for DALI

# :hugo<mark>müller</mark>

#### switching controlling counting





# Connect

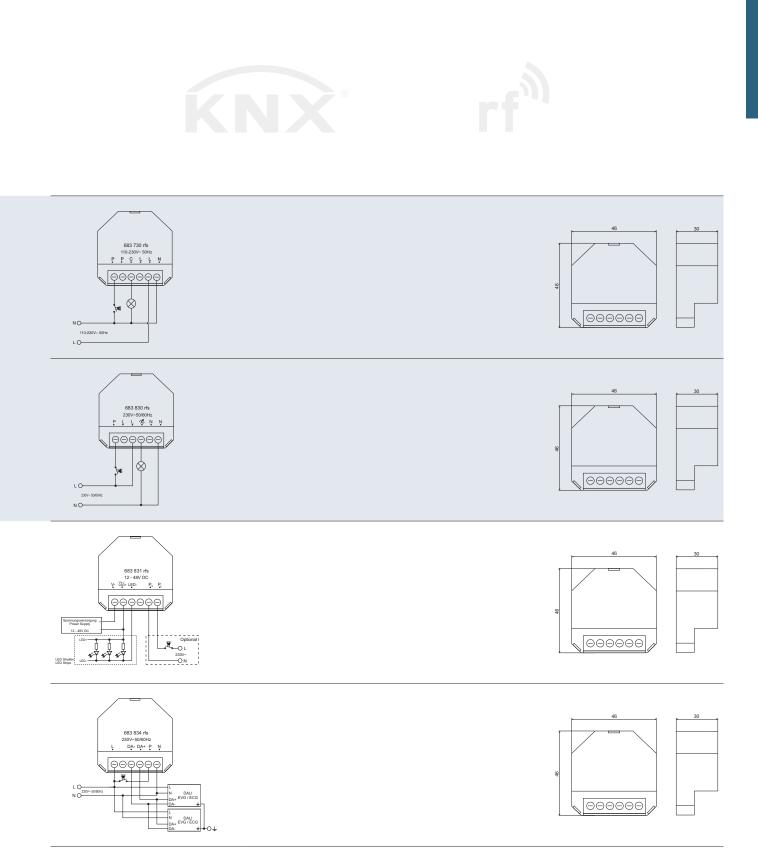
# KNX-RF S-mode products for flush-mounted fitting



- Products for KNX installations
- KNX-RF 1.R S-mode
- Additional connection for wired push-buttons
- RF-repeater function included

Garage       Paladin       by müler       Barane       Barane       P       P       P       P       P       P       P       P	<ul> <li>Switching actuator for the building automation</li> <li>1 channel</li> <li>Switching capacity 16 A / 250 V</li> <li>Functions:     switching (on / off)     timer     staircase lighting timer</li> </ul>	= paladin by müller 7683 730 rfs MHousing colour	Version 1 channel
	<ul> <li>Dimmer for the building automation</li> <li>Dimming of RLC und LED lights</li> <li>Minimum dimming level adjustable</li> <li>Up to 5 Scenes can be stored / called up</li> <li>Staircase lighting timer function</li> <li>LED-Load leading edge 4–100 W</li> <li>LED-Load trailing edge 4–250 W</li> <li>Integrated cycle function</li> </ul>	≡ paladin by müller 1683 830 rfs IVHousing colour	Suitable for RLC & LED
LED STRIPS	<ul> <li>Dimmer for the building automation</li> <li>Dimming of LED strips up to 12-48 V</li> <li>Minimum dimming level adjustable</li> <li>Up to 5 scenes can be stored / called up</li> <li>Staircase lighting timer function</li> <li>Integrated cycle function</li> <li>Pulse width modulation (PWM) 12-48 V DC</li> <li>LED strips up to 8 A (12V: 96 W, 24V: 192 W)</li> </ul>	■ paladin by müller 1683 831 rfs 17Housing colour	Suitable for LED Strips
DALL - paladin by mairer L DA DA P N COCOCCC	<ul> <li>DALI dimmer for the building automation</li> <li>Dimming of DALI ballasts</li> <li>Minimum dimming level adjustable</li> <li>Broadcast communication</li> <li>Up to 5 Scenes can be stored / called up</li> <li>Staircase lighting timer function</li> <li>Integrated cycle function</li> </ul>	■ paladin by müller 1683 834 rfs 17 Housing colour	Suitable for DALI

#### switching controlling counting



## Connect

# KNX-RF compatible switching actuators

- tch
- Included RF-Repeater function

Switching capacity 16 A



- Products for the building automation
- Usable as stand-alone wireless (RF) solution
- Usable in combination with KNX-TP bus via optional gateway
- Easy connection of RF components via push-button linking process (Easy-Mode)



<ul> <li>Switching actuator 1-channel</li> <li>DIN-rail mounting 17,5 mm</li> <li>Additional function: Timer (3 sec 10 min.)</li> <li>Additional input for wired push button</li> </ul>	■ Paladin by müller 6722730 rf Mousing colour	<b>Mounting</b> DIN-rail
Switching actuator 1-channel/ thermostat		
<ul> <li>DIN-rail mounting 17,5 mm</li> <li>Control for UVAC conditions</li> </ul>	naladin	Mounting
Control for HVAC applications, adjustable terms of a 2000	∎paladin by müller	5
adjustable temp. +5+30°C	672 731 rf	DIN-rail
Useable in combination with wireless temperature sensor	VHousing colour	
Optionally coupleable with wireless door / window contact		

Optionally coupleable with wireless presence detector



- Switching actuator 1-channel
- Flush-mounted fitting
- Additional function: Timer (3 sec. 5 min.)
- Additional input for wired push button

Mounting	∎ <b>paladin</b> by müller
flush-mounted fitting	673 730 rf
	Housing colour

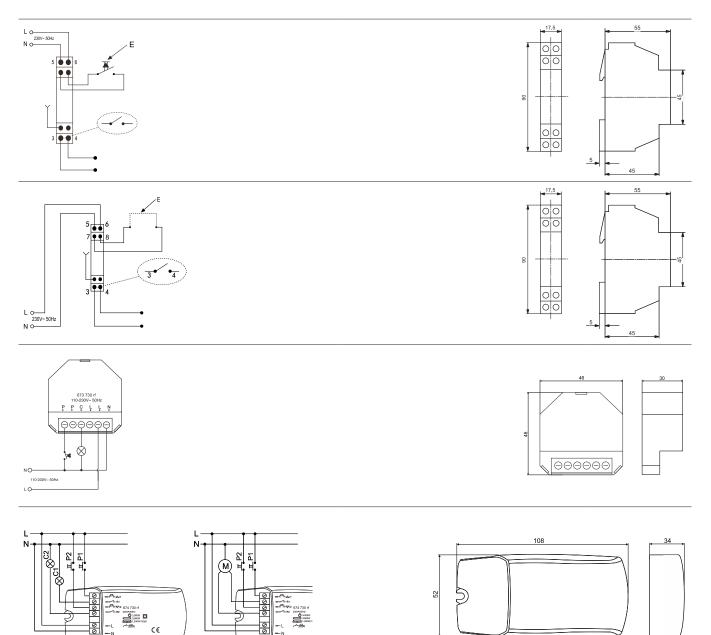


- Switching actuator 2-channel / blinds actuator 1-channel
- Cavity mounting (flush-mounted fitting)

2 external inputs for additional wired push buttons

Mounting
cavity mounting





#### Connect

# KNX-RF compatible wireless dimmers for flush-mounted fitting



- Products for the building automation
- Usable as stand-alone wireless (RF) solution
- Usable in combination with KNX-TP bus via optional gateway
- Easy connection of RF components via push-button linking process (Easy-Mode)
- Integrated RF-Repeater function



- Dimmer for LED and RLC lamps
- Load leading edge 4–100 W
- Load trailing edge 4-250 W
- Minimum dimming-value adjustable
- Additional input for wired push button



P	pag	STRIPS
		Γ
	paladin by moller	

LED

Dimmer for LED strips		
Controls LED strips via pulse width modulation (PWM)		
12-48 V DC	∎ <b>paladin</b> by müller	suitable for
LED strips up to 8 A	673 831 rf	LED strips
Ideal in combination with transmitter paladin 673 010 rf	Phousing colour	
<ul> <li>Additional input for wired push button</li> </ul>		

Amplifier available (see accessories)

	1-10 V
•No Mem •Mem ■ paladin by müller	
673 833 rf № ₽ V+ V- L' L	
00000	

- Dimmer for 1-10 V light control
- Controls up to 100 drivers
- Ideal in combination with transmitter paladin 673 010 rf
- Additional input for wired push button

∎paladin by müller

673 833 rf

Phousing cold

suitable for

lamps with 1-10 V control input

- DALI

-	Dimmer for DALI lamps
•	Controls up to 64 drivers

- up to 64 drivers
- Minimum dimming-value adjustable
- Additional input for wired push button

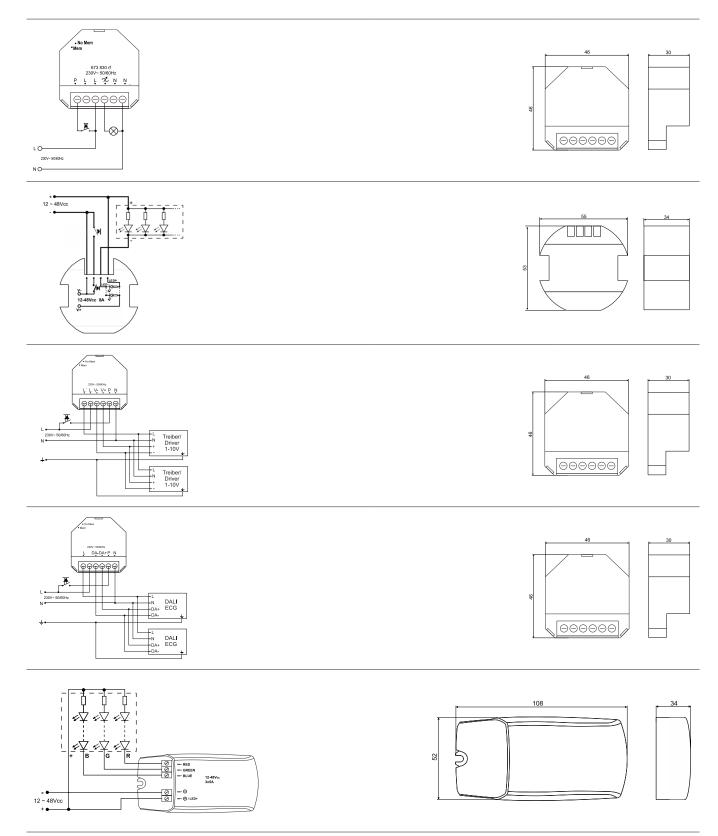
■paladin by müller	suitable for
673 834 rf	DALI
Phousing colour	



- Dimmer for RGB LED Strips
- Controls LED STRIPS via pulse width modulation (PWM) 12-48 V DC
- LED STRIPS up to 5 A per channel
- Ideal in combination with transmitter paladin 673 010 rf
- Amplifier available (see accessories)
- Cavity mounting (flush-mounted fitting)

<b>≡paladin</b> by müller	suitable for
674 830 rf	RGB LED Strips
Phousing colour	





### **:** h u g o **m ü í í e r**

## Connect

# KNX-RF compatible gateways for flush-mounted fitting



- Product for the building automation
- Easy connection of RF components via push-button linking process (Easy-Mode)
- Integrated RF-Repeater function

 Gateway / media coupler RF compatible products to KNX-TP
 Connects KNX TP installations with our KNX PF

- Connects KNX-TP installations with our KNX-RF compatible products
- Power supply via KNX-Bus
- 16 independant RF-channels

 p a ladin
 Mounting

 by müller
 Flush-mounted fitting

 P673 520 rf
 Flush-mounted fitting

 Phousing colour
 Flush-mounted fitting

#### Connect

Nireless

## KNX-RF compatible wireless repeaters for flush-mounted fitting



- Product for the building automation
- Usable as stand-alone wireless (RF) solution
- Easy connection of RF components via push-button linking process (Easy-Mode)

	Sigr	nal	repea	ter RF	
_		1.4			

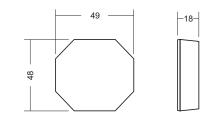
Ideal to increase RF range

∎paladin by müller	
673 620 rf	Flu
Phousing colour	

Mounting sh-mounted fitting

Wireless





witching controlling counting





## **:** h u g o **m ü í í e r**

#### Co<u>nnect</u>

# KNX-RF compatible wireless sensors / transmitters



- Products for the building automation
- Usable as stand-alone wireless (RF) solution
- Usable in combination with KNX-TP bus via optional gateway
- Easy connection of RF components via push-button linking process (Easy-Mode)

Wireless push button / transmitter 1-channel Wall mounting / compact housing Version paladin by müller Battery operated (included), battery lifetime ~ 8 years 676 010 rf 1-channel Phousing colo Ideal for universal dimmers 673 830 rf, 673 831 rf, 673 833 rf, 673 834 rf, 674 830 rf Wireless remote control / transmitter 5-channel Battery operated (included), Version ■ paladin by müller battery lifetime ~ 8 years 670 010 rf 5-channels Ideal for universal dimmers 673 830 rf, 673 831 rf, Phousing color 673 833 rf, 673 834 rf, 674 830 rf Binary interface / wireless transmitter 1-channel Flush-mounted fitting ∎paladin by mülle Version Input for two wired push buttons 673 010 rf 1 channel Functions: Switching, dimming, blinds control, Input for two push buttons scene control (scene 1/2) Phousing colou Battery operated (included), battery lifetime ~ 8 years Temperature sensor with external probe (3 m) Version ■paladin by mülle Flush-mounted fitting 673 310 rf Temperature sensor Measuring range -20°C...+55°C with external probe Transmission intervall (temperature): 1/min. Nousing colou Integrated RF-Repeater function

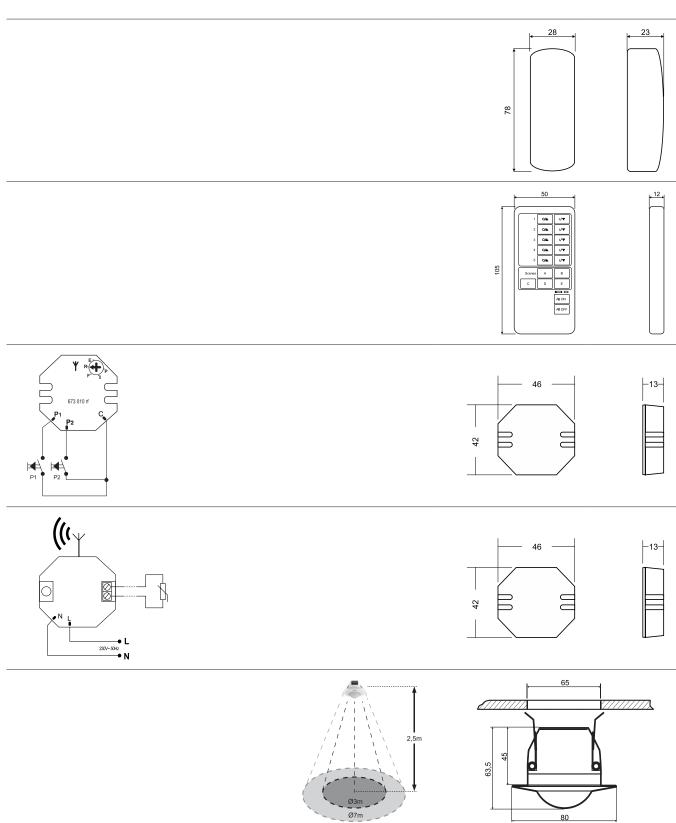


- Motion detector / presence detector
- Flush-ceiling mounting
- Two operating modes
- Coverage area Ø 7 m at 2,5 m height
- Battery operated (included), battery lifetime ~ 4 years

∎ <b>paladîn</b> by müller	Version
674 110 rf	Motion / presence detector
Phousing colour	

80





# Connect

# KNX-RF compatible wireless sensors / transmitters



- Products for the building automation
- Usable as stand-alone wireless (RF) solution
- Usable in combination with KNX-TP bus via optional gateway
- Easy connection of RF components via push-button linking process (Easy-Mode)
- Battery operated (included)
- Wall mounting

=
2
=
2

Door-/ window contact sensor	∎ <b>paladin</b> by müller	Sensor
<ul> <li>Transmission of open / close status change via RF</li> <li>Battery lifetime ~ 12 years</li> </ul>	676 410 rf	Door-/window contact

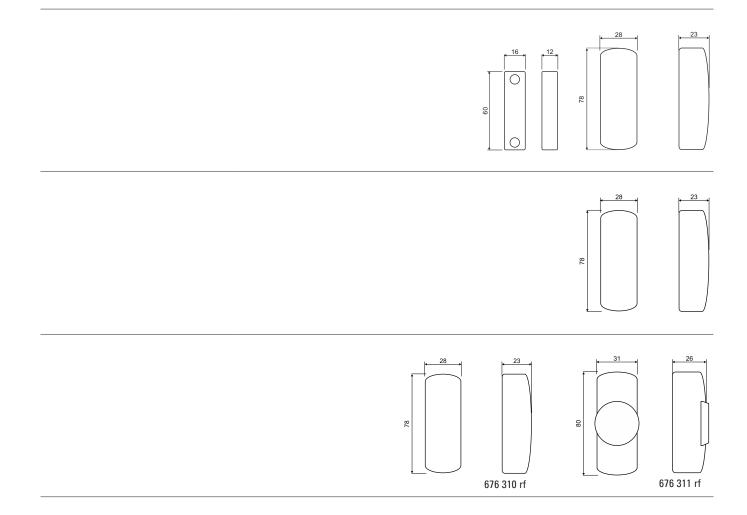
- Brightness sensor
- For sun protection applications
- Compatible with blinds control 674 730
- Battery lifetime ~ 8 years

	<b>≡ paladin</b> by müller	Sensor
D rf	676 210 rf	Lux
	housing colour	



∎paladin by müller	Version	Sensor
676 310 rf		Т
676 311 rf	T manual	Т
		<sup>7</sup> 676 310 rf <sup>7</sup> 676 311 rf T manual





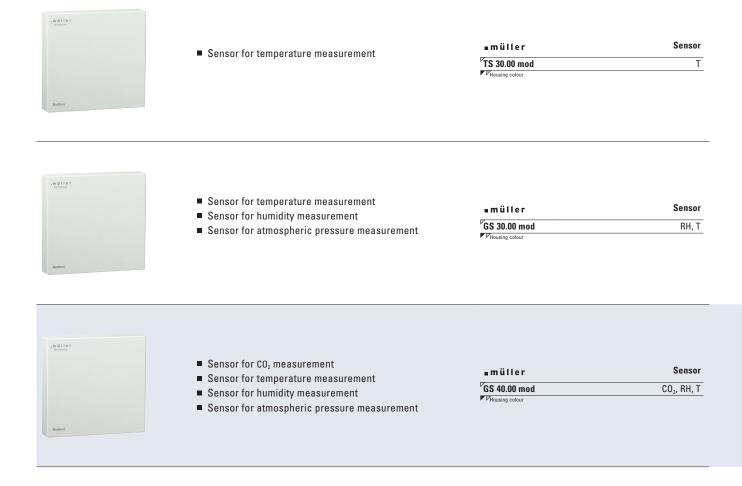
# Connect

Modbus

#### **Modbus Sensors**

# Modbus

- Sensors for indoor use (IP 20)
- Modbus-Modes (ASCII / RTU) configurable
- Compact housing (wall-mounting)
- Adjustable baud rate
- Adjustable parities



# 80,5 Following registers available via Modbus: Temperature (value range: 0°C - 50°C) 80,5 80,5 Following registers available via Modbus: Temperature (value range: 0°C - 50°C) Humidity (value range: 0°C - 100%) 80,5 Dew point (value range: -40°C - 125°C) Absolute atmospheric air pressure (value range: 400hPa - 1100 hPa) 80,5 Following registers available via Modbus: Temperature (value range: 0°C - 50°C) Humidity (value range: 0°C - 100%) 80,5 ■ CO<sub>2</sub> (value range: 390ppm - 10.000ppm) Dew point (value range: -40°C - 125°C) Absolute atmospheric air pressure (value range: 400hPa - 1100 hPa)

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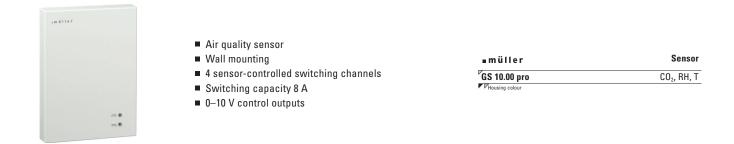
#### Feel well

# Climate

Air quality sensor

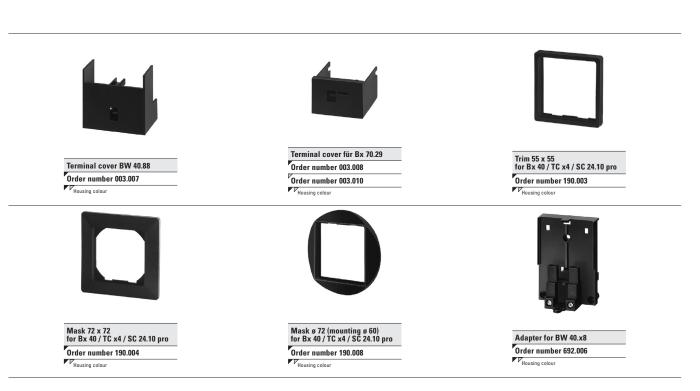
# climate

- Detection of the air quality:
  - CO<sub>2</sub> sensor (atmospheric pressure compensated)
  - Relative humidity sensor
  - Temperature sensor
- 3 control outputs (0–10 V) for measured values of CO<sub>2</sub> concentration, rel. humidity and temperature
- Control of the CO<sub>2</sub> concentration via 2 sensorcontrolled switching channels (potentialfree NO contacts)
- Control of the rel. humidity via 2 sensor controlled switching channels (potentialfree NO contacts)
- Status and warning indicator LED's

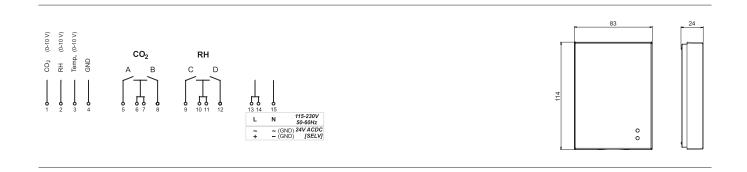


#### or hour counters, countdown timers and digital time switches SC 24.10 pro









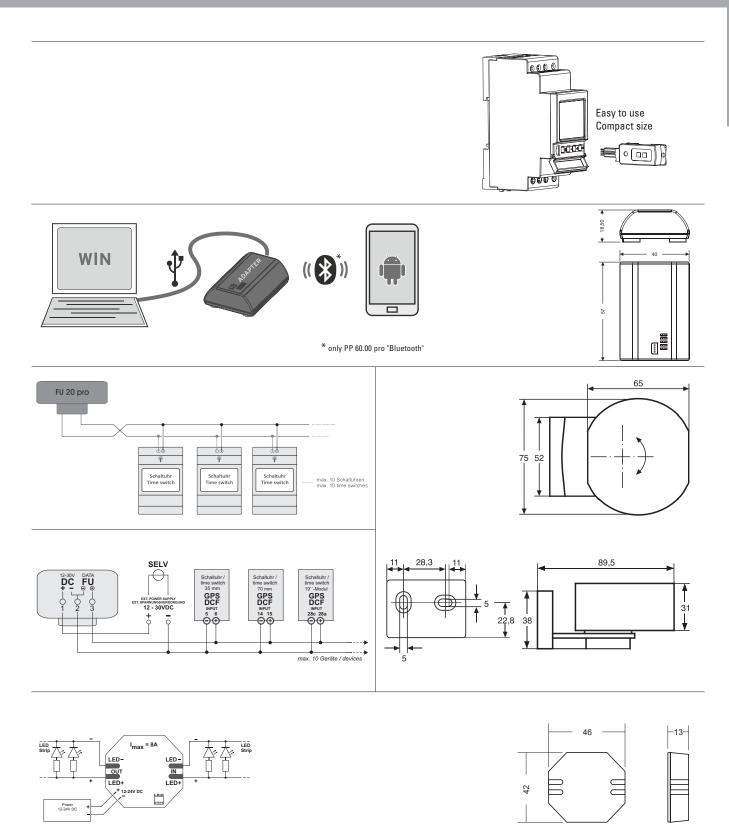
switching controlling counting



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111			
	Data-key		Description
	<ul> <li>Accessory for devices of the pro-series and SC 98.40 knx</li> </ul>	∎müller ″DK pro	Description
	<ul> <li>Suitable for programming package Save'n carry</li> </ul>	VHousing colour	Data-key
	PP 50.00 pro and PP 60.00 pro		
	<ul> <li>Programming package Save'n carry</li> <li>Accessory for devises of the pre-period and</li> </ul>	∎müller	Interface
	<ul> <li>Accessory for devices of the pro-series and SC 98.40 knx</li> </ul>	PP 50.00 pro	USB
	<ul> <li>For easily programming of switching times</li> </ul>	PP 60.00 pro	USB, Bluetooth
PP 60.00 pro	at your PC or Smartphone (Android, only PP 60.00 pro)	<ul> <li>Housing colour</li> </ul>	
	<ul> <li>Radio receiver DCF-Time</li> <li>Accessory for devices of the pro-series and</li> </ul>		
0	SC 98.40 knx	∎müller	
	<ul> <li>Wall mounting</li> </ul>	FU 20.00 pro	
	Connection wire specifications: 2-wire, no shield,	PHousing colour	
• m 0 114 • 10 2000 m € 00177	variable core cross-section Reception and output of the DCF 77 telegram		
-müller nusses Tus	<ul> <li>Radio receiver GPS-Time</li> <li>Accessory for devices of the pro-series and SC 98.40 knx</li> <li>Wall mounting</li> <li>Connection wire specifications: 3-wire, no shield, variable core cross-section</li> <li>Reception and processing of GPS time signal</li> </ul>	■ müller FU 30.00 pro FU 35.00 pro PHousing colour	Version without power supply power supply for DIN-rail included
e paladin By adiar By adiar By adiar By adiar By adiar By adiar	<ul> <li>Amplifier for LED strips</li> <li>Flush-mounted fitting</li> <li>LED strips up to 8 A</li> </ul>	■paladin bymüller	suitable for
LED + LED +	<ul> <li>Combinable with dimmer paladin 873 040 led,</li> </ul>	873 041 amp	LED strips
rsaevoo CE /★ Power	673 831 rf and 674 830 rf		
	<ul> <li>External temperature sensor / probe TF06</li> <li>Connecto to conference input of</li> </ul>		
	<ul> <li>Connects to analogue input of: GS 4x.10 knx</li> </ul>		
	GS 3x.10 knx, TS 3x.10 knx		. · ·
	EA 36.32 knx	∎müller Marso	Version
	Measuring range: -15+70°C	TF06 Housing colour	External temperature sensor / probe
	Sensor NTC 10 kOhm, nominal length 28 mm,	-	
	diameter 7,7 mm		
	<ul> <li>Cable: 4 m PVC/PVC black (H03 VV-F)</li> <li>Type of protection: LP 65</li> </ul>		

Type of protection: IP 65





# switching controlling counting

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