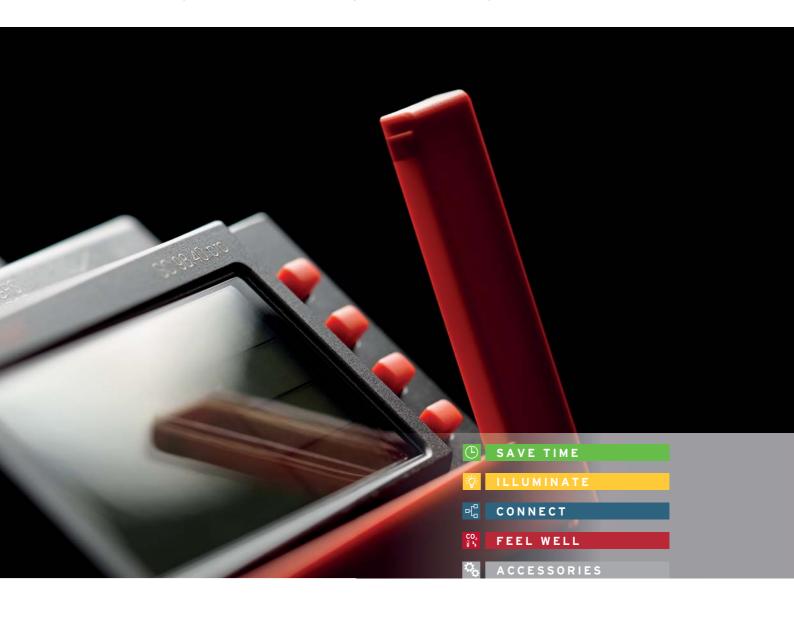
# : h u g o m ü l l e r

switching controlling counting



Compact catalogue

# Compact catalogue 2018-2019

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## thugomüller

#### 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**

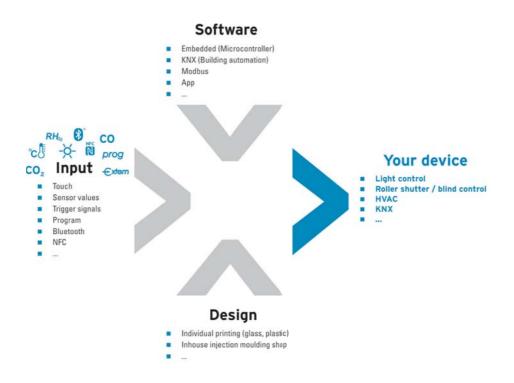
Hugo Müller is your partner whenever you need a customized electro-technical product. We manage the transition from your wishes and vague specifications to well-designed and sellable products.

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.



#### 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

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



- DIN-rail mounting 17.5 mm
- 1 channel / 46 memory locations
- Switching capacity 16 A
- 6 years battery-reserve
- Programmable with PC and Smartphone (see accessories)
- Removable programming module

| ∎ müller     | <b>mpaladin</b><br>by müller | Channels |
|--------------|------------------------------|----------|
| SC 08.11 pro | 172 110 pro                  | 1        |
|              |                              |          |







- DIN-rail mounting 35 mm
- 1-2 channels / 56 memory locations
- Switching capacity 16 A
- 10 years battery-reserve / exchangeable battery
- Directly programmable with Smartphone (NFC)
- Ideal for modern lamps (LED)
- Simple yearly program
- Illuminated display / Display of the switching program

| ∎müller        | <b>m paladin</b><br>by müller | Channels |
|----------------|-------------------------------|----------|
| SC 18.10 easy  | 170 410 easy                  | 1        |
| SC 18.20 easy  | 170 420 easy                  | 2        |
| Housing colour |                               |          |





- DIN-rail mounting 35 mm
- 1-2 channels / 100 memory locations
- Switching capacity 16 A
- 10 years battery-reserve / exchangeable battery
- Directly programmable with Smartphone (Bluetooth)
- Ideal for modern lamps (LED)
- Zero-cross switching (up to 600 W LED load)
- Simple yearly program
- Random function / Cycle function
- Illuminated display / Display of the switching program

pro4

| ∎müller       | <b>■ paladin</b><br>by müller | Channels |
|---------------|-------------------------------|----------|
| SC 28.11 pro4 | 172 411 pro4                  | 1        |
| SC 28.21 pro4 | 172 421 pro4                  | 2        |

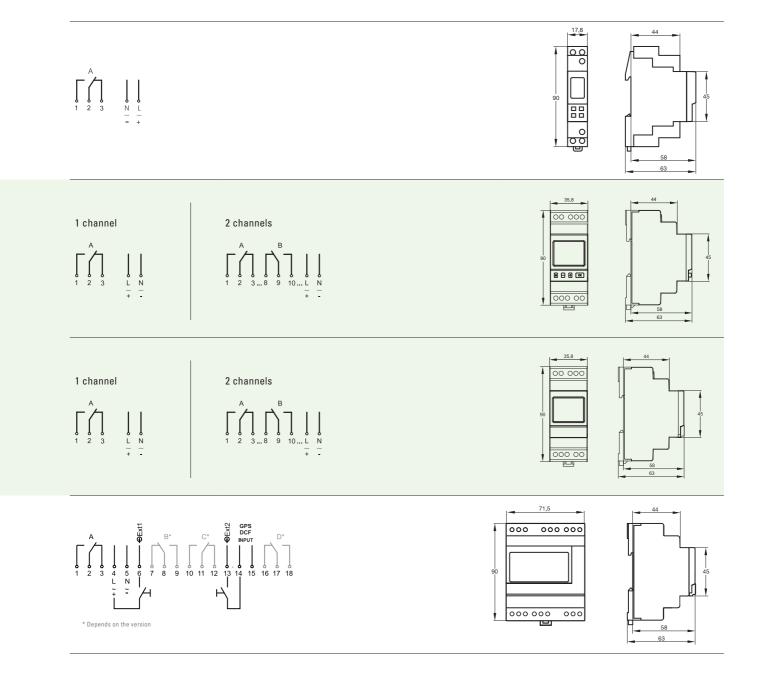
Available from June 2018



- DIN-rail mounting 70 mm
- 1-4 channels / 300 memory locations
- Switching capacity 16 A
- 10 years battery-reserve
- Programmable with PC and Smartphone (see accessories)
- Data-key function
- External input / Cycle function
- DCF / GPS function
- Up to 300 permanent switchings by date
- Illuminated display

| ∎müller        | <b>≡paladin</b><br>by müller | Channels |
|----------------|------------------------------|----------|
| SC 88.10 pro   | 179 410 pro                  | 1        |
| SC 88.20 pro   | 179 420 pro                  | 2        |
| SC 88.30 pro   | 179 430 pro                  | 3        |
| SC 88.40 pro   | 179 440 pro                  | 4        |
| Housing colour |                              |          |

# week prog



## 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

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



- Switchboard panel mounting
- 1 channel / 46 memory locations
- Switching capacity 8 A
- 4 years battery-reserve
- External input

| ∎müller        | Channels |
|----------------|----------|
| SC 24.10 pro   | 1        |
| Housing colour |          |



- Switchboard panel and wall mounting
- 1-2 channels / 46 memory locations
- Switching capacity 16 A
- 10 years battery-reserve
- Programmable with PC and Smartphone (see accessories)
- Data-key function
- Illuminated display

| ∎müller        | Channels |
|----------------|----------|
| SC 44.11 pro   | 1        |
| SC 44.21 pro   | 2        |
| Housing colour |          |







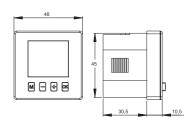
- lacktriang Flush-mounted fitting
- 1 channel / 56 memory locations
- Switching capacity 10 A
- 10 years battery-reserve
- Directly programmable with Smartphone (NFC)
- Ideal for modern lamps (LED)
- Simple yearly program
- Illuminated display / Display of the switching program
- Can be used with many common switch programs

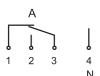


| <b>paladin</b><br>by müller | Channels |
|-----------------------------|----------|
| 173 110 easy                | 1        |
| Housing colour              |          |

# week prog



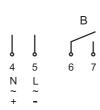


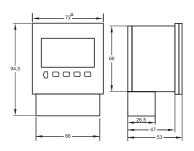


1 channel

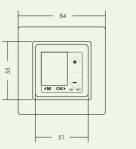


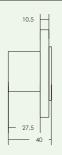












#### Digital time switches astro



- Astro program: Automatic switching according to the position the sun
- Economical night program
- Minimum interval 1 min. ■ Manual permanent mode

- Automatic sorting of switching times
- Fully automatic daylight saving time
- Security by PIN-Code
- Ideal for modern lamps (LED, CFL, etc.)
- Data security through E<sup>2</sup>PROM

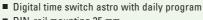


- Digital time switch astro with weekly program
- DIN-rail mounting 17.5 mm
- 1 channel / 60 memory locations
- Switching capacity 16 A
- 6 years battery-reserve
- Programmable with PC and Smartphone (see accessories)
- Removable programming module
- Extra switching times (weekly time function)

| ∎müller        | <b>mpaladin</b><br>by müller | Channels |
|----------------|------------------------------|----------|
| SC 08.13 pro   | 172 113 pro                  | 1        |
| Housing colour |                              |          |







- DIN-rail mounting 35 mm
- 1 channel / 4 memory locations
- Switching capacity 16 A
- 10 years battery-reserve / exchangeable battery
- Direct programmable with smartphone (NFC)
- Illuminated display
- Display of the switching program



astr-o-

| ∎müller        | <b>mpaladin</b><br>by müller | Channels |
|----------------|------------------------------|----------|
| SC 18.13 easy  | 170 413 easy                 | 1        |
| Housing colour |                              |          |









- Digital time switch astro with weekly program
- DIN-rail mounting 35 mm
- 1-2 channels / 56 memory locations
- Switching capacity 16 A
- 10 years battery-reserve / exchangeable battery
- Direct programmable with smartphone (NFC)
- Extra switching times (weekly timer function)
- Illuminated display / Display of the switching program

# easy







- Digital time switch astro with weekly program
- DIN-rail mounting 35 mm
- 1-2 channels / 100 memory locations
- Switching capacity 16 A
- 10 years battery-reserve / exchangeable battery
- Directly programmable with Smartphone (Bluetooth)
- Zero-cross switching (up to 600 W LED load)
- Extra switching times (weekly timer function)
- Illuminated display / Display of the switching program

pro4

| ∎müller       | <b>paladin</b><br>by müller | Channels |
|---------------|-----------------------------|----------|
| SC 28.13 pro4 | 172 413 pro4                | 1        |
| SC 28.23 pro4 | 172 423 pro4                | 2        |
|               |                             |          |

Available from June 2018





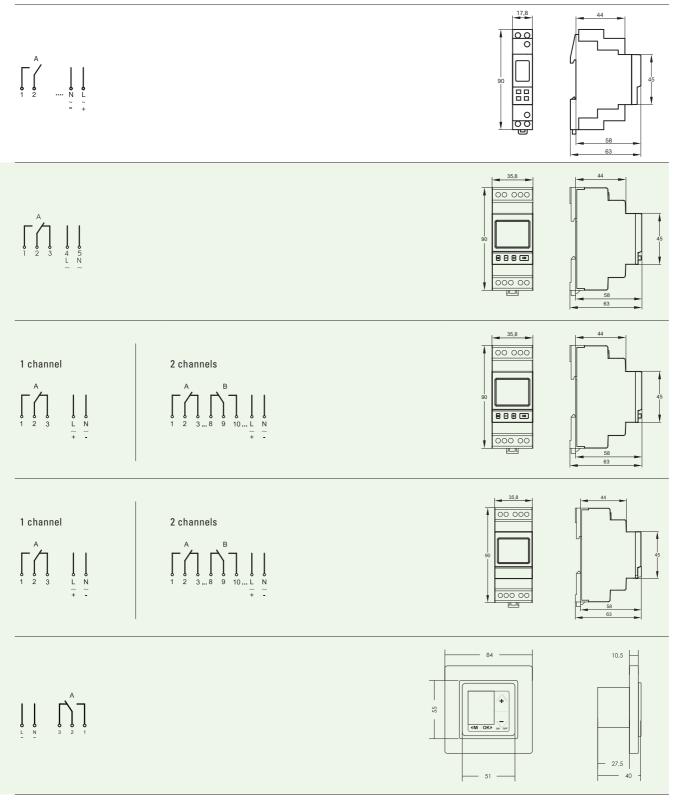


- Digital time switch astro with weekly program
- Flush-mounted fitting
- 1 channel / 56 memory locations
- Switching capacity 10 A
- 10 years battery-reserve
- Directly programmable with Smartphone (NFC)
- Extra switching times (weekly timer function)
- Illuminated display / Display of the switching program
- Can be used with many common switch programs

easv



# astr-o-prog



### Digital time switches year



- Daily, weekly and yearly program
- 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

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



- DIN-rail mounting 35 mm
- 1 channel / 300 memory locations
- Switching capacity 16 A
- 10 years battery-reserve
- Programmable with PC and Smartphone (see accessories)
- Data-key function
- Cycle function
- DCF / GPS function
- Up to 300 permanent switchings by date

| ∎müller        | <b>mpaladin</b><br>by müller | Channels |
|----------------|------------------------------|----------|
| SC 28.19 pro   | 172 419 pro                  | 1        |
| Housing colour |                              |          |



- DIN-rail mounting 70 mm
- 1-4 channels / 300 memory locations
- Switching capacity 16 A
- 10 years battery-reserve
- Programmable with PC and Smartphone (see accessories)
- Data-key function
- External input / Cycle function
- DCF / GPS function
- Up to 300 permanent switchings by date

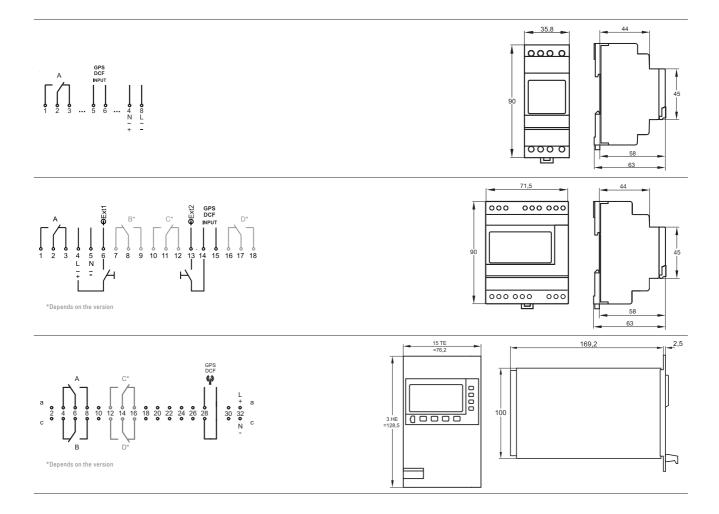
| ∎müller        | <b>≖paladin</b><br>by müller | Channels |
|----------------|------------------------------|----------|
| SC 98.10 pro   | 179 610 pro                  | 1        |
| SC 98.20 pro   | 179 620 pro                  | 2        |
| SC 98.30 pro   | 179 630 pro                  | 3        |
| SC 98.40 pro   | 179 640 pro                  | 4        |
| Housing colour |                              |          |



- 19"-housing
- 2 or 4 channels / 300 memory locations
- Switching capacity 5 A
- 10 years battery-reserve
- Programmable with PC and Smartphone (see accessories)
- Data-key function
- Cycle function
- DCF / GPS function
- lacksquare Up to 300 permanent switchings by date

| ∎müller        | Channels |
|----------------|----------|
| SC 93.20 pro   | 2        |
| SC 93.40 pro   | 4        |
| Housing colour |          |

# year prog



#### Masterclocks for DIN-rail mounting

masterclocks L

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



- DIN-rail mounting 70 mm
- 1 slave-clock line
- For approx. 5 slave clocks (24 VDC, 35 mA, pole changing pulse)

| ∎müller        | Slave clock lines | Channels |
|----------------|-------------------|----------|
| SC 58.07 pro   | 1                 | -        |
| Housing colour |                   |          |



- DIN-rail mounting 70 mm
- 1 slave-clock line
- Suitable for slave clocks up to 250 V~
- A pulse amplifier is not needed

| ∎müller        | Slave clock lines | Channels |
|----------------|-------------------|----------|
| SC 58.08 pro   | 1                 | _        |
| Housing colour |                   |          |



- DIN-rail mounting 70 mm
- 1 slave-clock line
- For approx. 20 slave clocks (24 VDC, 150 mA, pole changing pulse)
- Time Switch: Weekly timer / 1 channel [similar to SC 88.10 pro]

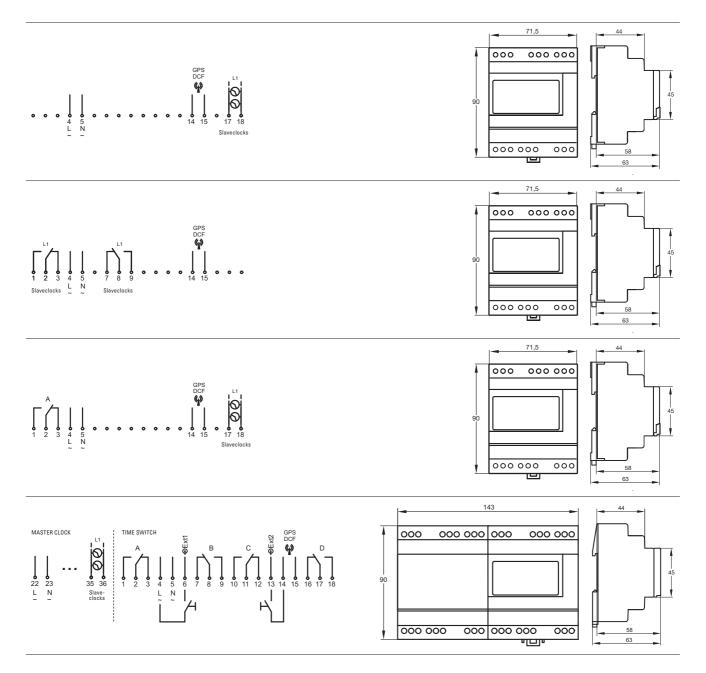
| ∎müller        | Slave clock lines | Channels |
|----------------|-------------------|----------|
| SC 58.17 pro   | 1                 | 1        |
| Housing colour |                   |          |



- DIN-rail mounting 140 mm
- 1 slave-clock line
- For approx. 40 slave clocks (24 VDC, 300 mA, pole changing pulse)
- Time Switch: Yearly timer / 4 channels [similar to SC 98.40 pro]

| ∎müller      | Slave clock lines | Channels |
|--------------|-------------------|----------|
| SC 98.47 pro | 1                 | 4        |
|              |                   |          |





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



- 15 TE / 3 HE [128.5 x 76.2 mm]
- 2 slave-clock output-lines
- Output-line 2 adjustable to a pulse repetition rate of one per sec.
- For approx. 200 slave clocks (24 VDC, 1,5 A, pole changing pulse)
- Power supply unit for slave clocks not included
- Time Switch: Weekly timer / 1 channel

[Functions similar to SC 88.10 pro]

| ∎müller        | Slave clock lines | Channels |
|----------------|-------------------|----------|
| SC 53.17 pro   | 2                 | 1        |
| Hausing solour |                   |          |



- 15 TE / 3 HE [128.5 x 76.2 mm]
- 1 slave-clock output-line
- For approx. 200 slave clocks (24 VDC, 1,5 A, pole changing pulse)
- Power supply unit for slave clock not included
- Time Switch: Yearly timer / 4 channels

[Functions similar to SC 98.40 pro]

| ∎müller        | Slave clock lines | Channels |
|----------------|-------------------|----------|
| SC 93.47 pro   | 1                 | 4        |
| Housing colour |                   |          |



- 15 TE / 3 HE [128.5 x 76.2 mm]
- Accessory for 19"master clocks
- Power supply 19"-housing
- Power supply of slave clocks
- Output current 1.5 A

| ∎müller        | power back-up | Output voltage |
|----------------|---------------|----------------|
| NT 73.24 pro   | without       | 24 V DC        |
| NT 73.64 pro   | with          | 24 V DC        |
| Housing colour |               |                |

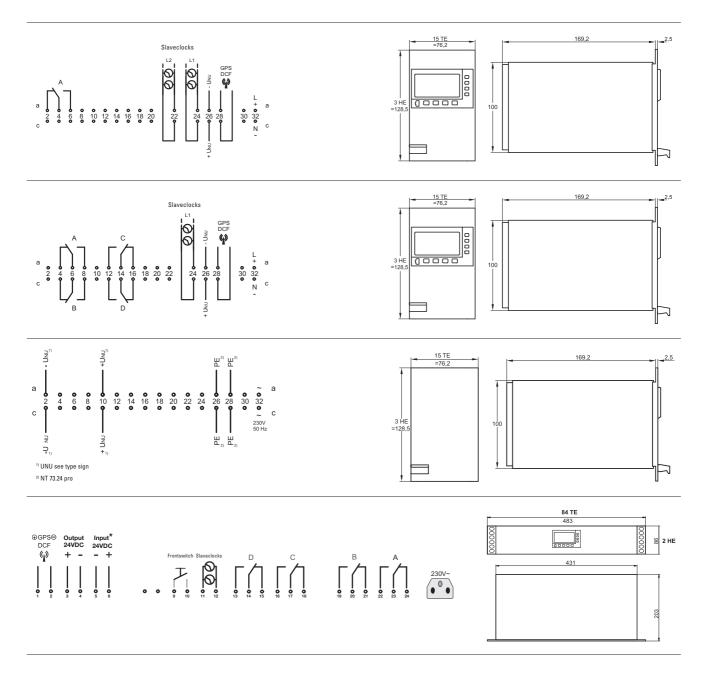


- 84 TE / 2 HE [483 x 86 x 203 mm]
- 1 slave-clock output-line
- For approx. 200 slave clocks (24 VDC, 1,5 A, pole changing pulse)
- No extra power supply unit needed (integrated 24 VDC power supply unit for slave clock pulses and GPS receiver operation)
- Frontswitch (potential-free) can be used to control an arbitrary application
- Time Switch: Yearly timer / 4 channels

  [Functions similar to SC 98.40 pro]

| ∎müller        | Slave clock output lines | Channels |
|----------------|--------------------------|----------|
| SC 95.47 pro   | 1                        | 4        |
| Housing colour |                          |          |





## Analogue time switches



- Daily or weekly program
- Manual override switch [Permanent OFF / Automatic / Permanent ON]
- 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>mpaladin</b><br>by mülle | <sub>r</sub> ∎müller  | Version             |
|-----------------------------|-----------------------|---------------------|
| 111 120                     | <sup>™</sup> 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
- Switching capacity 16 A
- Minimum switching interval 30 min.
- Minute pointer

| <b>■paladin</b><br>by mülle | <sub>r</sub> ∎müller  | version             |
|-----------------------------|-----------------------|---------------------|
| <b>151 220</b>              | <sup>™</sup> VS 20.18 | Day without reserve |
| 154 220                     | <sup>™</sup> VS 24.18 | Day with reserve    |
| Housing colour              | Setting key colour    |                     |





- 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]

| by mülle       | , muller              | Version              |
|----------------|-----------------------|----------------------|
| 131 120        | <sup>™</sup> VS 30.18 | Day without reserve  |
| 134 120        | <sup>™</sup> VS 34.18 | Day with reserve     |
| 131 420        | <sup>™</sup> VS 30.38 | Week without reserve |
| 134 420        | <sup>™</sup> VS 34.38 | Week with reserve    |
| Housing colour | Setting key colour    |                      |

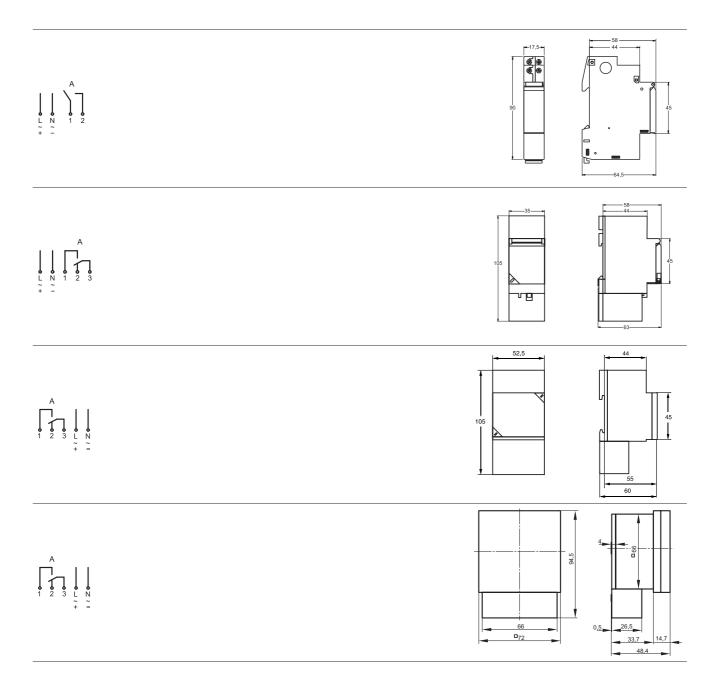




- Switchboard panel and wall mounting
- Daily or weekly program
- Switching capacity 16 A
- Minimum switching interval day dial 15 min.
- Minimum switching interval week dial 1 h.
- Analogue display [with hands]

| by müller      | muller             | Version              |
|----------------|--------------------|----------------------|
|                | FS 60.18           | Day without reserve  |
|                | FS 64.18           | Day with reserve     |
|                | FS 60.38           | Week without reserve |
|                | FS 64.38           | Week with reserve    |
| Housing colour | Setting key colour |                      |

# analogue



#### Hour counters

# 2345h

#### **Hour counters for panel mounting**

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



- Panel mounting
- Integral locking spring
- Mounting aperture: 50x25 mm
- Counter capacity 99,999 h.
- With operation indicator
- Type of protection front IP 65

| ∎müller        | Version             |
|----------------|---------------------|
| BW 30.18       | Alternating current |
| BG 30.18       | Direct current      |
| Housing colour |                     |



- Panel mounting
- Retaining Clip in delivery included
- Mounting aperture square: 45x45 mm
- Mounting aperture circle: ø 50,5 mm
- Counter capacity BW 99,999 h.
- Counter capacity BG 999,999 h.
- With operation indicator
- Type of protection front IP 50 (with ring seal 100.003: IP 54)

| ∎muller        | version                                 |
|----------------|---|
| BG 40.17       | Direct current                          |
| BW 40.18       | Alternating current                     |
| BG 40.27       | Direct current, with trim 55x55 mm      |
| BW 40.28       | Alternating current, with trim 55x55 mm |
| BG 40.37       | Direct current, with trim 72x72 mm      |
| BW 40.38       | Alternating current, with trim 72x72 mm |
| Housing colour |   |



- DIN-rail mounting 17,5 mm
- Flush mount dimensions 45x17,5 mm
- Slim format
- No terminal cover
- Counter capacity 99,999 h.
- With operation indicator
- Type of protection IP 50

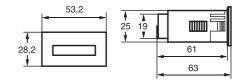
| ∎müller        | <b>mpaladin</b><br>by müller | Version             |
|----------------|------------------------------|---------------------|
| BW 70.18       | 311 170                      | Alternating current |
| BG 70.18       | 312 170                      | Direct current      |
| Housing colour |                              |                     |

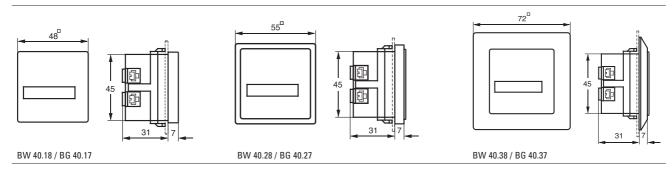


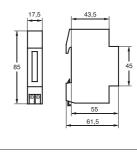
- DIN-rail mounting 35 mm
- Flush mount dimensions 45x35 mm
- Bx 70.29: without terminal cover
- Bx 70.89: with terminal cover
- With operation indicator (flashing LED)
- One Version for 50 and 60 Hz
- Counter capacity 99,999 h.
- Type of protection IP 50

| ∎müller        | <b>■ paladin</b><br>by müller | version               |
|----------------|-------------------------------|-----------------------|
| BW 70.29       | 311 270                       | Alternating current   |
| BG 70.29       | 312 270                       | Direct current        |
| BW 70.89*      | 311 280*                      | Alternating current   |
| BG 70.89*      | 312 280*                      | Direct current        |
| Housing colour |                               | * with terminal cover |











## 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 lighting timers



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

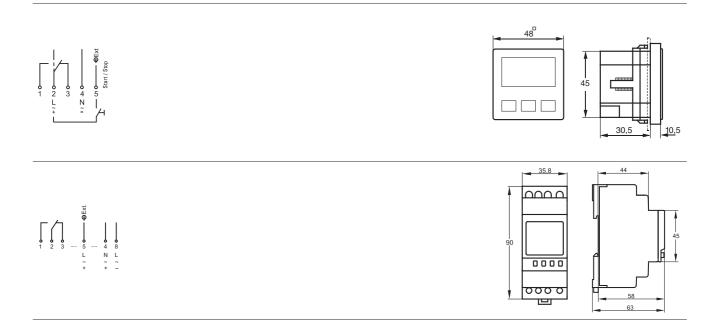
- Glow lamp load: up to 100 mA
- 284 250: Advanced warning function included
- Zero-cross switching for relay-saving switching



- Staircase lighting timer
- Electronic
- DIN-rail mounting 17.5 mm
- 3- or 4-conductor rising mains
- Switching capacity 16 A
- Zero-cross switching
- Resettable

| <b>mpaladin</b><br>by müller | 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

# staircase



#### Twilight switches

# lux

#### Digital twilight switches

- Suitable for modern lamps (LED, CFL, etc.)
- Adjustable lux threshold
- Adjustable delay times
- Adjustable light-hysteresis
- With weekly timer function (e.g. for energy saving)

#### Analogue twilight switches

- Suitable for modern lamps (LED, CFL, etc.)
- Adjustable lux threshold
- Data security through E<sup>2</sup>PROM



- Digital twilight switch
- DIN-rail mounting 35 mm
- Switching capacity 16 A
- Adjustable lux threshold 1-50,000 Lux
- Twilight switch with daily and weekly program
- Permanent switchings by date

| mpaladin<br>by müller | Channels |
|-----------------------|----------|
| 972 413 pro           | 1        |
| Housing colour        |          |



- Digital twilight switch
- DIN-rail mounting 35 mm
- Switching capacity 16 A
- Adjustable lux threshold 1-50,000 Lux
- Twilight switch with daily, weekly and yearly program
- Permanent switchings by date
- Programmable with PC and Smartphone (see accessories)
- Advanced functionality (e.g. ext. input within 1 channel version)

| <b>mpaladin</b><br>by müller | Special function | Channels |
|------------------------------|------------------|----------|
| 972 414 pro                  | External input   | 1        |
| 972 424 pro                  |                  | 2        |
| Housing colour               |                  |          |



- Analogue twilight switch
- Wall mounting
- Switching capacity 16 A
- Adjustable lux threshold 3–300 Lux

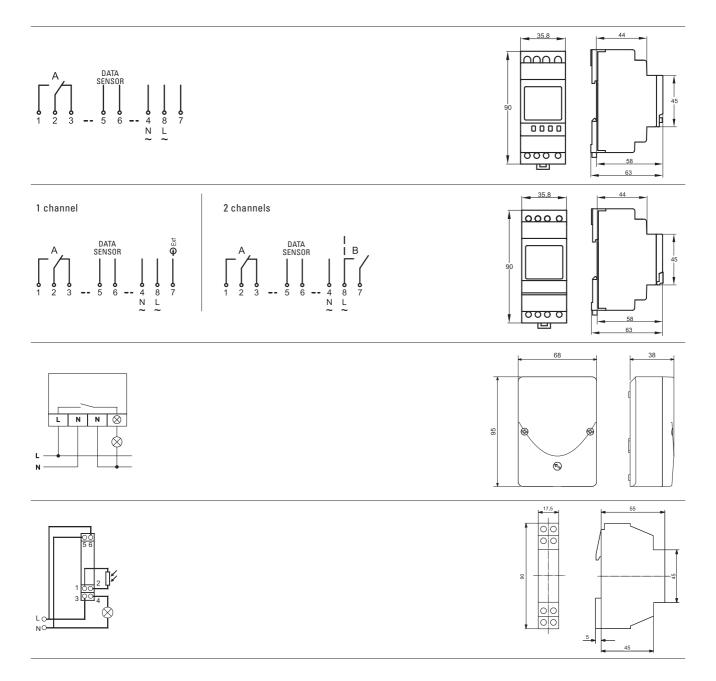
| <b>mpaladin</b><br>by müller | Channels |
|------------------------------|----------|
| 922 000                      | 1        |
| Housing colour               |          |



- Analogue twilight switch
- DIN-rail mounting 17.5 mm
- Switching capacity 16 A
- Adjustable lux threshold 1–1,000 Lux

| <b>mpaladin</b><br>by müller | Sensor Chann                       | els |
|------------------------------|------------------------------------|-----|
| 923 500                      | sensor for wall mounting           | 1   |
| 923 501                      | sensor for mounting within housing | 1   |
| Housing colour               |                                    |     |

# lux



#### 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



- RLC Dimmer
- Flush-mounted fitting
- With litz wires and ferrules
- Load 15-400 W
- Suitable for leading or trailing edge

| <b>mpaladin</b><br>by müller | Suitable for  |
|------------------------------|---------------|
| 873 010 rlc                  | R, L, C Loads |
| Housing colour               |               |



- LED Dimmer
- Flush-mounted fitting
- With litz wires and ferrules
- Load leading edge 4-100 W
- Load trailing edge 4-350 W

| <b>mpaladin</b><br>by müller | Suitable for |
|------------------------------|--------------|
| 873 030 led                  | LED Loads    |
| Housing colour               |              |



- LED Dimmer without neutral wire
- Flush-mounted fitting
- With litz wires and ferrules
- Load leading edge 4–80 W
- Load trailing edge 4-200 W
- Compensator included in delivery

| <b>mpaladin</b><br>by müller | Suitable for |
|------------------------------|--------------|
| 873 031 led                  | LED Loads    |
| Housing colour               |              |





- LED Dimmer
- lacktriang Flush-mounted fitting
- With screw terminals
- Load leading edge 4–100 W
- Load trailing edge 4–350 W

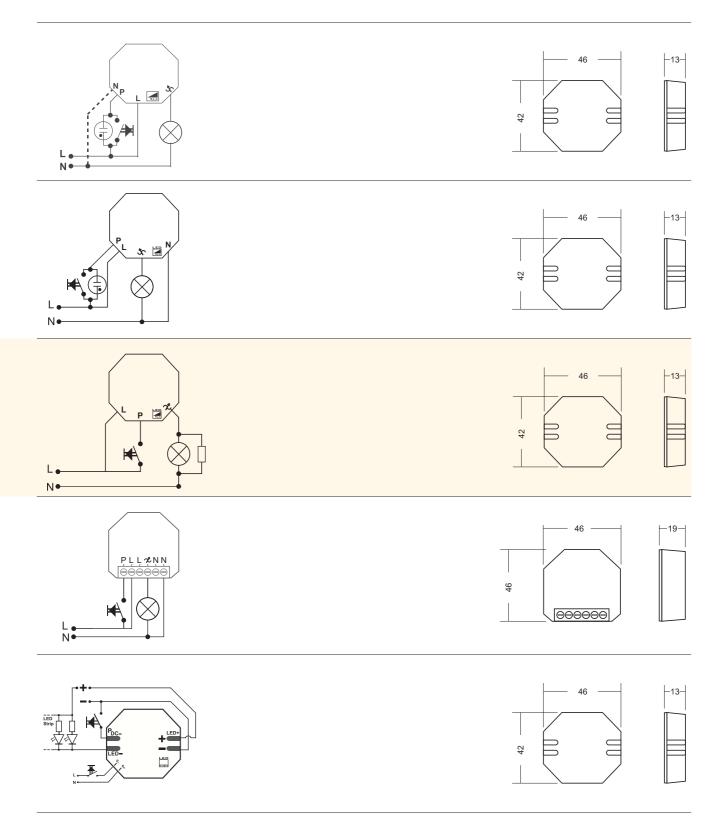
| <b>mpaladin</b><br>by müller | Suitable for |
|------------------------------|--------------|
| 872 032 led                  | LED Loads    |
| Housing colour               |              |



- LED Strips Dimmer
- Flush-mounted fitting
- With litz wires and ferrules
- Pulse Width Modulation technology (PWM) 12-48 V DC
- LED strips up to 8 A
- Amplifier available (see accessories)

| <b>mpaladin</b><br>by müller | Suitable for |
|------------------------------|--------------|
| 879 040 led                  | LED Strips   |
| Housing colour               |              |





#### Illuminate

## **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





- LED Dimmer / Universal Dimmer
- DIN-rail mounting 17.5 mm
- LED-Load leading edge 4–100 W
- LED-Load trailing edge 4–350 W

| <b>mpaladin</b><br>by müller | Suitable for            |
|------------------------------|-------------------------|
| 872 110 led                  | LED, R, L, C, CFL Loads |
| Housing colour               |                         |

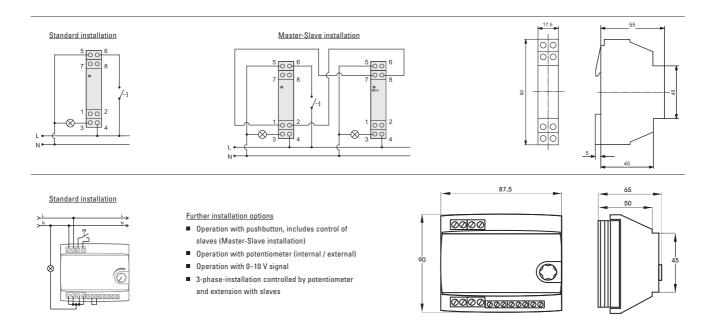




- TRIAC Dimmer for dimmable LED lamp
- DIN-rail mounting 87.5 mm
- Up to 1,200 W peak load per dimmer
- For leading edge
- Further functions for a flexible usage: Potentiometer (internal or external), pushbutton operation, 0–10 V signal

| mpaladin<br>by müller | Suitable for |
|-----------------------|--------------|
| 879 410 led           | LED Loads    |
| Housing colour        |              |





# II-XN)

#### 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       |
|              |        |         |

#### Connect

#### 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



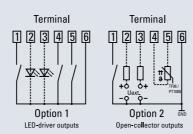
- Digital time switch year
- DIN-rail mounting 70 mm
- 4 channels / 300 memory locations
- Daily, weekly and yearly program
- Programmable with PC and Smartphone (see accessories)
- Data-key function (see accessories)

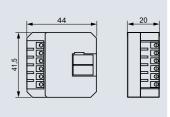
| ∎müller        | Channels |
|----------------|----------|
| SC 98.40 knx   | 4        |
| Housing colour |          |



Following functions and data available via KNX bus:

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



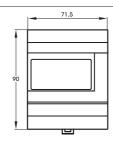


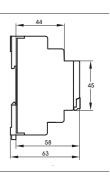
switching controlling countin



Following functions and data available via KNX bus:

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





#### Connect

# **KNX-TP Outdoor sensors for wall mounting**



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



- Light-/brightness sensor
- Lighting control
- Daily time switch

| ∎müller        | Sensor |
|----------------|--------|
| LS 20.00 knx   | Lux    |
| Housing colour |        |



- Light and temperature sensor
- Lighting and temperature control
- Daily time switch

| ■ muller       | 3611301 |
|----------------|---------|
| LS 30.00 knx   | Lux, T  |
| Housing colour |         |



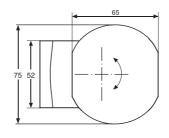
- GPS Sensorstation
- Lighting and temperature control
- Daily and astro time switch
- Provides time base to KNX bus

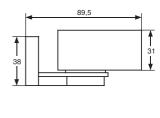
| ∎müller        | Sensor      |
|----------------|-------------|
| FU 40.00 knx   | GPS, Lux, T |
| Housing colour |             |



Following functions and data available via KNX bus:

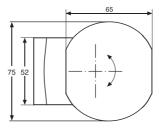
- Time switch (standard)
- Light control

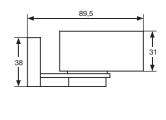




Following functions and data available via KNX bus:

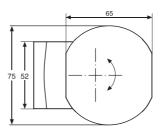
- Time switch (standard)
- Light control
- Temperature control

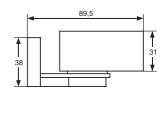




Following functions and data available via KNX bus:

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





#### Connect

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



- 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, CO₂-concentration
  - PI- and 2-point control



TS 31.10 knx

- Temperature control
- Sensor for temperature measurement
- Up to 5 binary and analogue inputs
- Additional function TS 31.10 knx:
   Manual adjustment of set-point temperature ±3°C

| ∎müller        | Version      | Sensor |
|----------------|--------------|--------|
| TS 30.10 knx   |              | T      |
| TS 31.10 knx   | T manual ±3° | Т      |
| Housing colour |              |        |



GS 31.10 knx

- Temperature control and hygrostat
- Sensors for temperature, humidity and atmospheric pressure measurement
- Up to 5 binary and analogue inputs
- Additional function GS 31.10 knx:
   Manual adjustment of set-point temperature ±3°C

| ∎müller        | Version      | Sensor |
|----------------|--------------|--------|
| GS 30.10 knx   |              | RH, T  |
| GS 31.10 knx   | T manual ±3° | RH, T  |
| Housing colour |              |        |



GS 41.00 knx

- Air quality sensor / air quality control
- Sensors for CO<sub>2</sub>, temperature, humidity and atmospheric pressure measurement
- Additional function GS 41.00 knx:
   Manual adjustment of set-point temperature ±3°C

| ∎müller        | Version      | Sensor                  |
|----------------|--------------|-------------------------|
| GS 40.00 knx   |              | CO <sub>2</sub> , RH, T |
| GS 41.00 knx   | T manual ±3° | CO <sub>2</sub> , RH, T |
| Housing colour |              |                         |



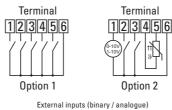
- Air quality sensor & control
- Sensors for CO<sub>2</sub>, temperature, humidity and atmospheric pressure measurement
- Up to 5 binary and analogue inputs
- Additional function GS 41.10 knx:
   Manual adjustment of set-point temperature ±3°C

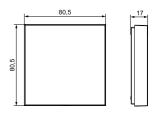
| ∎müller      | Version      | Sensor                  |
|--------------|--------------|-------------------------|
| GS 40.10 knx |              | CO <sub>2</sub> , RH, T |
| GS 41.10 knx | T manual ±3° | CO <sub>2</sub> , RH, T |
|              |              |                         |



Following functions and data available via KNX bus:

- Temperature control
- Binary and analogue inputs

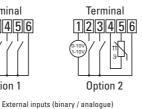


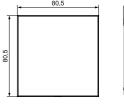


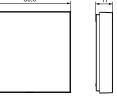
Following functions and data available via KNX bus:

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



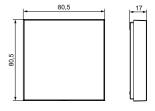






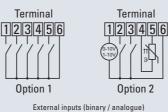
Following functions and data available via KNX bus:

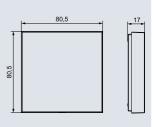
- Temperature control
- Rel. humidity control
- CO, control
- Dewpoint
- Air pressure
- VAV control



Following functions and data available via KNX bus:

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





#### Connect

## KNX-RF compatible switching actuators



- 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)
- Included RF-Repeater function
- Switching capacity 16 A



■ Switching actuator 1-channel

■ DIN-rail mounting 17,5 mm

Additional function: Timer (3 sec. - 10 min.)

Additional input for wired push button

| mpaladin<br>by müller | Mounting |
|-----------------------|----------|
| 672 730 rf            | DIN-rail |
| Housing colour        |          |



- Switching actuator 1-channel/ thermostat
- DIN-rail mounting 17,5 mm
- Control for HVAC applications, adjustable temp. +5...+30°C
- $\blacksquare$  Useable in combination with wireless temperature sensor
- Optionally coupleable with wireless door / window contact
- Optionally coupleable with wireless presence detector

| by müller      | wounting |
|----------------|----------|
| 672 731 rf     | DIN-rail |
| Housing colour |          |



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

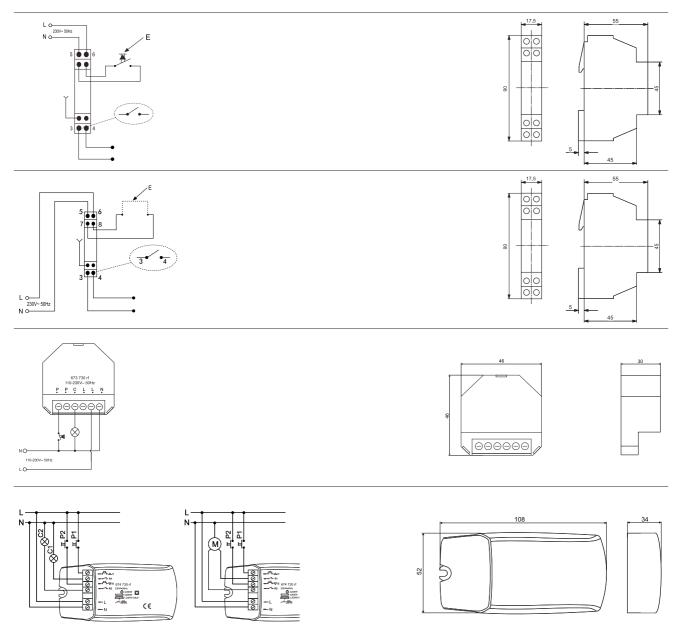
| <b>mpaladin</b><br>by müller | Mounting              |
|------------------------------|-----------------------|
| 673 730 rf                   | flush-mounted fitting |
| Housing colour               |                       |



- Switching actuator 2-channel / blinds actuator 1-channel
- Recessed ceiling mounting (flush-mounted fitting)
- 2 external inputs for additional wired push buttons

| <b>≡paladin</b><br>by müller | Mounting                  |
|------------------------------|---------------------------|
| 674 730 rf                   | Recessed ceiling mounting |
| Housing colour               |                           |





### 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

| <b>≡paladin</b><br>by müller | suitable for |
|------------------------------|--------------|
| 673 830 rf                   | RLC & LED    |
| Vhausing aglaur              |              |



- Dimmer for LED strips
- Controls LED strips via pulse width modulation (PWM)
   12-48 V DC
- LED strips up to 8 A
- Ideal in combination with transmitter paladin 673 010 rf
- Additional input for wired push button
- Amplifier available (see accessories)

| <b>mpaladin</b><br>by müller | suitable for |
|------------------------------|--------------|
| 673 831 rf                   | LED strips   |
| Phoneing colour              |              |



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

| <b>≡paladin</b><br>by müller | suitable for                    |
|------------------------------|---------------------------------|
| 673 833 rf                   | lamps with 1-10 V control input |
| housing colour               |                                 |



- Dimmer for DALI lamps
- Controls up to 64 drivers
- Minimum dimming-value adjustable
- Additional input for wired push button

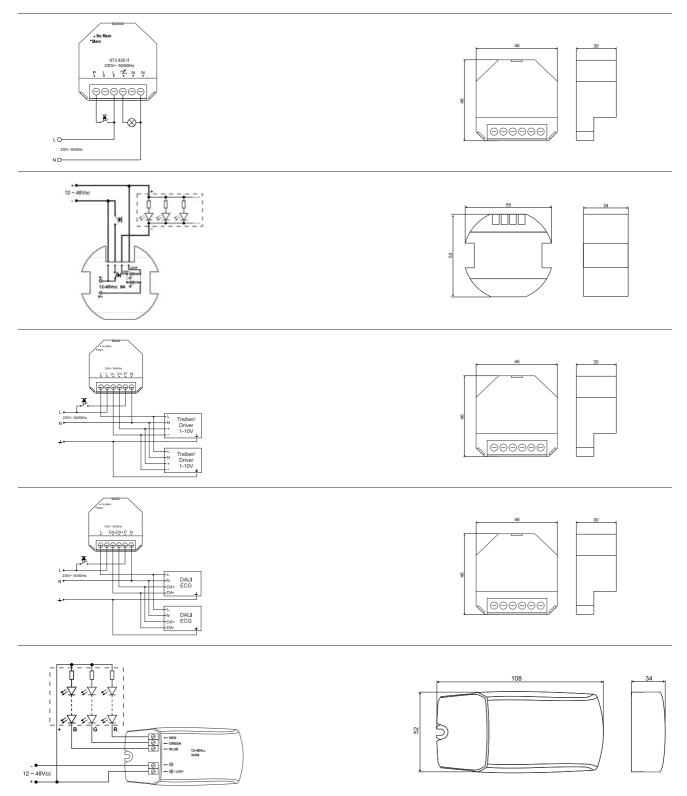
| <b>mpaladin</b><br>by müller | suitable for |
|------------------------------|--------------|
| 673 834 rf                   | DALI         |
| Phousing colour              |              |



- 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)

| mpaladin<br>by müller | suitable for   |
|-----------------------|----------------|
| 674 830 rf            | RGB LED Strips |
| Phousing colour       |                |





# /ireless

### Connect

## KNX-RF compatible gateways for flush-mounted fitting



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



- Gateway / media coupler RF compatible products to KNX-TP
- Connects KNX-TP installations with our KNX-RF compatible products
- Power supply via KNX-Bus
- 16 independant RF-channels

| <b>≡paladin</b><br>by müller | Mounting              |
|------------------------------|-----------------------|
| 673 520 rf                   | Flush-mounted fitting |
| housing colour               |                       |

## Connect

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



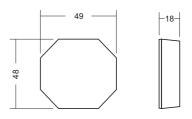
- Products for the building automation
- Usable as stand-alone wireless (RF) solution
- Easy connection of RF components via push-button linking process (Easy-Mode)



- Signal repeater RF
- Ideal to increase RF range

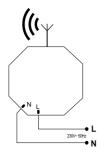
| <b>mpaladin</b><br>by müller | Mounting              |
|------------------------------|-----------------------|
| 673 620 rf                   | Flush-mounted fitting |
| housing colour               |                       |

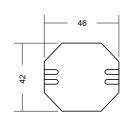




switching controlling counting









### 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)



- Wireless push button / transmitter 1-channel
- Wall mounting / compact housing
- Battery operated (included), battery lifetime ~ 8 years
- Ideal for universal dimmers 673 830 rf, 673 831 rf, 673 833 rf, 673 834 rf, 674 830 rf

| <b>mpaladin</b><br>by müller | Version   |
|------------------------------|-----------|
| 676 010 rf                   | 1-channel |
| housing colour               |           |



- Wireless remote control / transmitter 5-channel
- Battery operated (included), battery lifetime ~ 8 years
- Ideal for universal dimmers 673 830 rf, 673 831 rf, 673 833 rf, 673 834 rf, 674 830 rf

| <b>■paladin</b><br>by müller | Version    |
|------------------------------|------------|
| 670 010 rf                   | 5-channels |
| Z                            |            |



- Binary interface / wireless transmitter 1-channel
- Flush-mounted fitting
- Input for two wired push buttons
- Functions: Switching, dimming, blinds control, scene control (scene 1/2)
- Battery operated (included), battery lifetime ~ 8 years

| <b>mpaladin</b><br>by müller | Version                               |
|------------------------------|---------------------------------------|
| 673 010 rf                   | 1 channel                             |
|                              | Input for two push buttons            |
| housing colour               | · · · · · · · · · · · · · · · · · · · |



- Temperature sensor with external probe (3 m)
- Flush-mounted fitting
- Measuring range -20°C...+55°C
- Transmission intervall (temperature): 1/min.
- Integrated RF-Repeater function

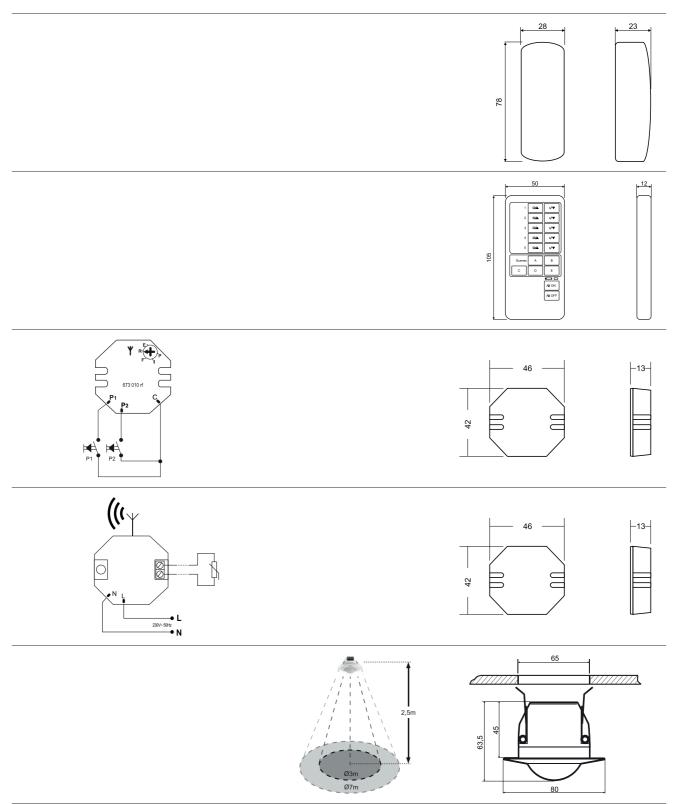
| <b>mpaladin</b><br>by müller | Version             |
|------------------------------|---------------------|
| 673 310 rf                   | Temperature sensor  |
|                              | with external probe |
| housing colour               |                     |



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

| <b>mpaladin</b><br>by müller | Version                    |
|------------------------------|----------------------------|
| 674 110 rf                   | Motion / presence detector |
| housing colour               |                            |





### 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



- Door-/ window contact sensor
- Transmission of open / close status change via RF
- Battery lifetime ~ 12 years

| <b>mpaladin</b><br>by müller | Sensor               |
|------------------------------|----------------------|
| 676 410 rf                   | Door-/window contact |
| housing colour               |                      |



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

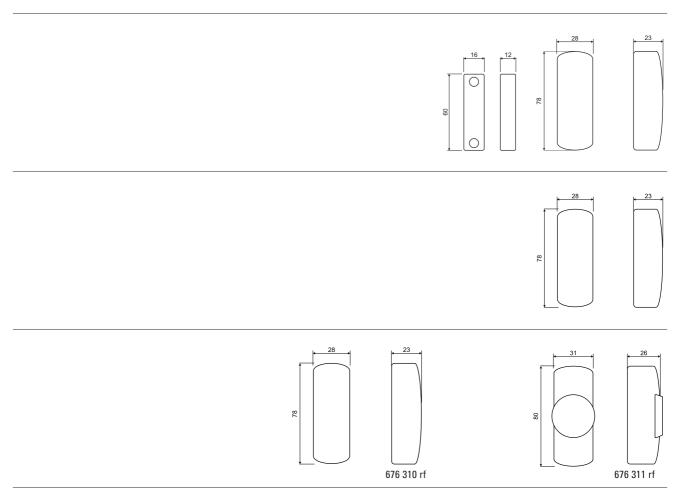
| <b>≡paladin</b><br>by müller | Sensor |
|------------------------------|--------|
| 676 210 rf                   | Lux    |
| housing colour               |        |



- Temperature sensor
- Transmission of temperature value via RF
- Battery lifetime ~ 8 years

| <b>mpaladin</b><br>by müller | Version  | Sensor |
|------------------------------|----------|--------|
| 676 310 rf                   |          | Т      |
| 676 311 rf                   | T manual | Т      |
| housing colour               |          |        |





# ccessories

### Feel well

## Air quality sensors

## climate

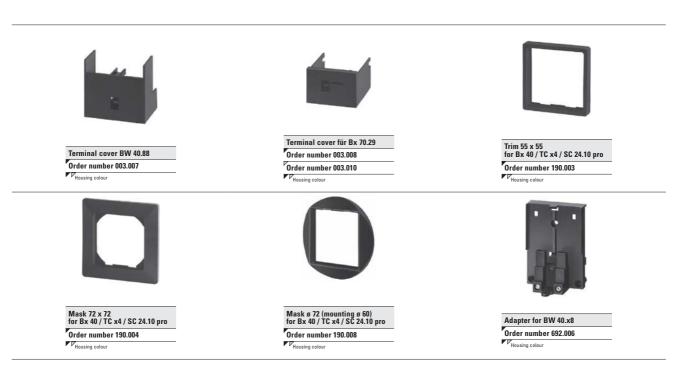
- Detection of the air quality:
  - CO<sub>2</sub> sensor (atmospheric pressure compensated)
  - Relative humidity sensor
  - Temperature sensor
- 3 control outputs (0–10 V) for measured values of CO<sub>2</sub> concentration, rel. humidity and temperature
- Control of the CO<sub>2</sub> concentration 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

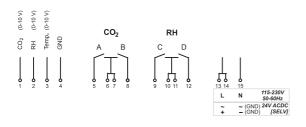


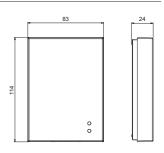
- Air quality sensor
- Wall mounting
- 4 sensor-controlled switching channels
- Switching capacity 8 A
- 0-10 V control outputs

| ∎müller           | Sensor                  |
|-------------------|-------------------------|
| GS 10.00 pro      | CO <sub>2</sub> , RH, T |
| Zilamata a salama |                         |

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









Retaining clip for Bx 40 / TC x4

Order number 715.003



Retaining clip for Bx 30

Order number 715.005



Self-adhesive seal (anti-twist protection) for Bx 40 / TC x4 / SC 24.10 pro

Order number 101.001

Housing colour



IP54-Seal for Bx 40 / TC x4 / SC 24.10 pro

Order number 101.003

### Accessories



- Data-key
- Accessory for devices of the pro-series and SC 98.40 knx
- Suitable for programming package Save'n carry PP 50.00 pro and PP 60.00 pro

| ∎müller        | Description |
|----------------|-------------|
| DK pro         | Data-key    |
| Housing colour |             |



- PP 60.00 pro
- Programming package Save'n carry
- Accessory for devices of the pro-series and SC 98.40 knx
- For easily programming of switching times at your PC or Smartphone (Android, only PP 60.00 pro)

| ∎müller        | Interface      |
|----------------|----------------|
| PP 50.00 pro   | USB            |
| PP 60.00 pro   | USB, Bluetooth |
| Mauring colour |                |



- Radio receiver DCF-Time
- Accessory for devices of the pro-series and SC 98.40 knx
- Wall mounting
- Connection wire specifications: 2-wire, no shield, variable core cross-section
- Reception and output of the DCF 77 telegram

### ∎müller

| FIL 20 00      |  |  |
|----------------|--|--|
| FU 20.00 pro   |  |  |
| 10%            |  |  |
| Housing colour |  |  |



- Radio receiver GPS-Time
- Accessory for devices of the pro-series and SC 98.40 knx
- Wall mounting
- Connection wire specifications: 3-wire, no shield, variable core cross-section
- Reception and processing of GPS time signal

| ∎müller        | Version                            |
|----------------|------------------------------------|
| FU 30.00 pro   | without power supply               |
| FU 35.00 pro   | power supply for DIN-rail included |
| Housing colour |                                    |



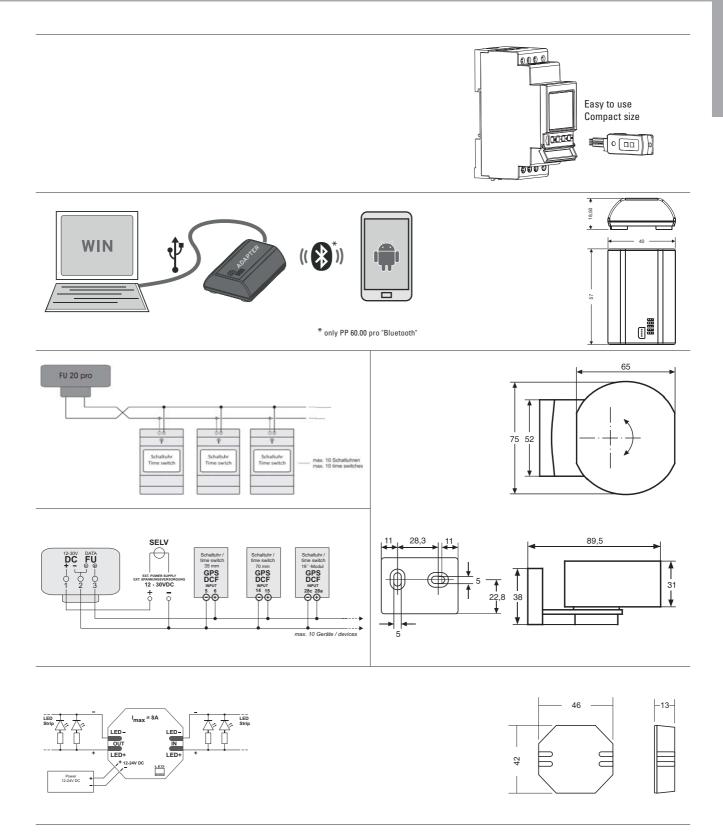
- Amplifier for LED strips
- Flush-mounted fitting
- LED strips up to 8 A
- Combinable with dimmer paladin 873 040 led, 673 831 rf und 674 830 rf

| mpaladin<br>by müller | suitable for |
|-----------------------|--------------|
| 873 041 amp           | LED strips   |
| Housing colour        | ·            |



- External temperature sensor / probe TF06
- Connects to analogue input of: GS 4x.10 knx GS 3x.10 knx, TS 3x.10 knx EA 36.32 knx
- Measuring range: -15...+70°C
- Sensor NTC 10 kOhm, nominal length 28 mm, diameter 7,7 mm
- Cable: 4 m PVC/PVC black (H03 VV-F)
- Type of protection: IP 65

| ∎müller        | Version                             |
|----------------|-------------------------------------|
| TF06           | External temperature sensor / probe |
| Housing colour |                                     |





also at: www.hugo-mueller.com

## : h u g o m ü l l e r

## switching controlling counting

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