## : h u g o m üller

switching controlling counting


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## : h ugom üller

## 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
- Automatic daylight saving time (Europe, USA, Australia or none)
- Minimum interval 1 min.
- Permanent by date
- Manual permanent mode
- Manual override
- Variable block programming
- Elapsed time and pulse counter
- Pulse function
- Security by PIN-Code
- Text based menu
- Data security through E2PROM


■ DIN-rail mounting 17.5 mm

- 1 channel / 46 memory locations
- Switching capacity 16 A


Channels

- 6 years battery-reserve

| SC 08.11 pro | 172110 pro | 1 |
| :--- | :--- | :--- | :--- |

- Programmable with PC and programming interface

Housing colour

- Removable programming module

- 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

| SC 18.10 easy | $V_{170} 410$ easy | 1 |
| :--- | :--- | :--- |
| SC 18.20 easy | $V_{170420 ~ e a s y ~}$ | 2 |

■ Illuminated display / Display of the switching 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)

- 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


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



## 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)

- Elapsed time and pulse counter
- Pulse function
- Security by PIN-Code
- Text based menu
- Data security through E2PROM

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

SC 24.10 pro
$\checkmark$ Housing colo


- Switchboard panel and wall mounting
- 1-2 channels / 46 memory locations
- Switching capacity 16 A

| - müller | Channels |
| :---: | :---: |
| SC 44.11 pro | 1 |
| SC 44.21 pro | 2 |

- 10 years battery-reserve
- Programmable with PC and Smartphone (see accessories)

SC 44.21 pro
2

- Data-key function
- Illuminated display



1 channel


## 2 channels






## Save time

## 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))
- Security by PIN-Code
- Ideal for modern lamps (LED, CFL, etc.)
- Data security through E²PROM
- Digital time switch astro with weekly program
- DIN-rail mounting 17.5 mm
- 1 channel / 60 memory locations
- Switching capacity 16 A

| ■ müller | ■ paladin <br> by müller | Channels |
| :--- | :---: | :---: |
| SC 08.13 pro | V172 113 pro | 1 |
| $W$ Housing colour |  |  |

- 6 years battery-reserve

SC 08.13 pro $\quad{ }_{172} 1$ mior 1

- Programmable with PC and programming interface
- Removable programming module
- Extra switching times (weekly time function)

- Digital time switch astro with daily program
- DIN-rail mounting 35 mm
- 1 channel / 4 memory locations
- Switching capacity 16 A
- 10 years battery-reserve / exchangeable battery
- Directly programmable with smartphone (NFC)

| ■müller | - paladin |
| :---: | :---: | :---: |
| by müller |  |$\quad$ Channels

- Illuminated display

Housing colour

- Display of the switching program

- 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
- Directly programmable with smartphone (NFC)
- Extra switching times (weekly timer function)
- Illuminated display / Display of the switching program

| - müller | -paladin <br> by müller | Channels |
| :--- | :---: | :---: |
| SC 18.14 easy | $V_{170414 \text { easy }}$ | 1 |
| SC 18.24 easy | $V_{170424 \text { easy }}$ | 2 |

- 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)

| -müller | -paladin |
| :---: | :---: | :---: |
| by müller |  |$\quad$ Channels

- Extra switching times (weekly timer function)

VHousing colour

- Illuminated display / Display of the switching program




## hugomüller

## Save time

## 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
- 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 E2PROM

- 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)
-müller
-paladin
Channels
- Data-key function

172419 pro 1

- Cycle function
- DCF / GPS function
- Up to 300 permanent switchings by date

- DIN-rail mounting 70 mm
- 1-4 channels / 300 memory locations
- Switching capacity 16 A

| - müller | - paladin | Channels |
| :---: | :---: | :---: |
| ${ }^{\text {S }}$ S 98.10 pro | 179610 pro | 1 |
| SC 98.20 pro | 179620 pro | 2 |
| SC 98.30 pro | 179630 pro | 3 |
| SC 98.40 pro | 179640 pro | 4 |

- Programmable with PC and Smartphone (see accessories)
- Data-key function
- External input / Cycle function

Housing colour

- DCF / GPS function
- Up to 300 permanent switchings by date

- 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

| -müller | Channels |
| :--- | :---: |
| SC 93.20 pro | 2 |
| SC 93.40 pro | 4 |

- Cycle function
- DCF / GPS function
- Up to 300 permanent switchings by date



## hugomüller

## 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
- Security by PIN-Code
- Illuminated display
- DCF/GPS function
- 10 years battery-reserve (time switch)
- Data security through E2PROM

- 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 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 |  |  |

week ${ }^{\text {prog }}$


- DIN-rail mounting 70 mm
- 1 slave-clock line for approx. 20 slave clocks ( $24 \mathrm{VDC}, 150 \mathrm{~mA}$, pole changing pulse)
- Time Switch: Weekly timer / 1 channel

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

[similar to SC 88.10 pro]


- DIN-rail mounting 140 mm
- 1 slave-clock line for approx. 40 slave clocks ( 24 VDC, 300 mA , pole changing pulse)

| - mülle r | Slave clock lines | Channels |
| :--- | :---: | :---: |
| SC 98.47 pro | 1 | 4 |
| $W$ Hosing colour |  |  |

■ Time Switch: Yearly timer / 4 channels
[similar to SC 98.40 pro]


## hugomüller

## 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
- Security by PIN-Code
- Illuminated display
- DCF / GPS function
- 10 years battery-reserve (time switch)
- Data security through E2PROM

■ 15 TE / 3 HE [128.5 x 76.2 mm ]

- 2 slave-clock output-lines for approx. 200 slave clocks (24 VDC, 1,5 A, pole changing pulse)
- Output-line 2 adjustable to a pulse repetition rate of one per sec.
- Ext. 24 VDC power supply unit required /

| - müller | Slave clock lines | Channels |
| :--- | :---: | :---: |
| $\mathbf{S C} \mathbf{5 3 . 1 7}$ pro | 2 | 1 |
| Housing colour |  |  | power supply unit for slave clocks not included

- Time Switch: Weekly timer / 1 channel
[Functions similar to SC 88.10 pro]

- 15 TE / 3 HE [128.5 x 76.2 mm ]
- 1 slave-clock output-line for approx. 200 slave clocks ( $24 \mathrm{VDC}, 1,5 \mathrm{~A}$, pole changing pulse)
- Ext. 24 VDC power supply unit required / power supply unit for slave clocks not included

| - müller | Slave clock lines | Channels |
| :---: | :---: | :---: |
| $\mathbf{S C} \mathbf{~ 9 3 . 4 7 ~ p r o ~}$ | 1 | 4 |
| Housing colour |  |  |

- Time Switch: Yearly timer / 4 channels
[Functions similar to SC 98.40 pro]

- 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 VDC |

84 TE / 2 HE [483 x $86 \times 203 \mathrm{~mm}$ ]

- 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
- Frontswitch (potential-free) can be used to contro

| - müller | Slave clock output lines | Channels |
| :---: | :---: | :---: |
| $\mathbf{S C}$ 95.47 pro | 1 | 4 |
| Housing colour |  |  | an arbitrary application

- Time Switch: Yearly timer / 4 channels
[Functions similar to SC 98.40 pro]



## Save time

## 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.


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

| -paladin | üller | Version |
| :---: | :---: | :---: |
| ${ }^{4} 151220$ | ${ }^{4}$ VS 20.18 | Day without reserve |
| $\square 154220$ | ${ }^{4}$ VS 24.18 | Day with reserve |
| Housing colour | 44 Setting key col |  |

- Minute pointer

- 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]

| - paladin by mülier | -müller | Version |
| :---: | :---: | :---: |
| ${ }^{1} 131120$ | ${ }^{4}$ VS 30.18 | Day without reserve |
| ${ }^{1} 134120$ | ${ }^{4}$ VS 34.18 | Day with reserve |
| ${ }^{1} 131420$ | ${ }^{\square}$ VS 30.38 | Week without reserve |
| ${ }^{134420}$ | ${ }^{4}$ VS 34.38 | Week with reserve |
| $\checkmark$ Housing colour | 44 Setting k |  |




## Save time

## Hour counters

## 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: $50 \times 25 \mathrm{~mm}$
- 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: $45 \times 45 \mathrm{~mm}$
- Mounting aperture circle: ø $50,5 \mathrm{~mm}$
- 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)
-müller Version
BG $40.17 \quad$ Direct current
BW 40.18 Alternating current
BG $40.27 \quad$ Direct current, with trim $55 \times 55 \mathrm{~mm}$

BW 40.28 Alternating current, with trim $55 \times 55 \mathrm{~mm}$
BG 40.37 Direct current, with mask $72 \times 72 \mathrm{~mm}$
BW 40.38 Alternating current, with mask $72 \times 72 \mathrm{~mm}$

Vhousing colour

- DIN-rail mounting $17,5 \mathrm{~mm}$
- Flush mount dimensions $45 \times 17,5 \mathrm{~mm}$
- Slim format
- No terminal cover
- Counter capacity 99,999 h.
- With operation indicator
- Type of protection IP 50

- DIN-rail mounting 35 mm

■ Flush mount dimensions $45 \times 35 \mathrm{~mm}$

- Bx 70.29: without terminal cover
- Bx 70.89: with terminal cover
- One Version for 50 and 60 Hz
- Counter capacity 99,999 h.
- With operation indicator (flashing LED)
- Type of protection IP 50

| - müller | -paladin | Version |
| :---: | :---: | :---: |
| BW 70.29 | V311270 | Alternating current |
| BG 70.29 | /312270 | Direct current |
| BW 70.89* | 「311 280* | Alternating current |
| BG 70.89* | 「312 280* | Direct current |
| $\checkmark$ Housing colour |  | * with terminal cover |



## 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 I. ${ }^{\text {flasher }}$

- 1 channel / change-over relay
- Minimum interval 0.1 sec.
- External input
- 20 different functions
- Extended range of functions
- Data security through E2PROM

- 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 $24.21 \quad 99: 59: 59 \mathrm{hh}: \mathrm{mm}: \mathrm{ss}$
$\sigma$ Housing colour 99:59:59 hh:mm:ss

- 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


## Illuminate

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

| -paladin <br> by müller | Special function | Time delay |
| :--- | :--- | ---: |
| $\sigma_{284210}$ |  | 30 sec. to 10 min. |
| $\sigma_{284250}$ | Advance warning | 1 min . to 12 min. |
| $\nabla_{\text {Housing colour }}$ |  |  |




## hugom üller

## Illuminate

## Twilight switches

## 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 E2PROM

- Digital twilight switch
- DIN-rail mounting 35 mm
- Switching capacity 16 A
- Adjustable lux threshold 1-50,000 Lux
-paladin $\begin{gathered}\text { by müler }\end{gathered}$
Channels
- Twilight switch with daily program
- Permanent switchings by date

- 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
${ }_{972} 413$ pro
$\sigma$ Housing colour
- Programmable with PC and and Smartphone (see accessories)
- External input

- Analogue twilight switch
- Wall mounting
- Switching capacity 16 A

- Adjustable lux threshold 3-300 Lux

- Analogue twilight switch
- DIN-rail mounting 17.5 mm
- Switching capacity 16 A

- Adjustable lux threshold 1-1,000 Lux



## llluminate

## 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

- LED Dimmer
- With screw terminals
- Load leading edge 4-100 W

| $\substack{\text {-paladin } \\ \text { by müler er }}$ | Suitable for |
| :---: | ---: |
| 872 032 led | LED |
| Housing colour |  |

- Load trailing edge 4-350 W

- LED Strips Dimmer
- With litz wires and ferrules
- Pulse Width Modulation technology (PWM) 12-48 V DC
$\begin{gathered}\text { paladin } \\ \text { by müler } \\ 879040 \text { led }\end{gathered}$
Suitable for
- LED strips up to 8 A
- Amplifier available (see accessories)



## : hugomüller

## llluminate

## 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

| $\substack{\text { paladin } \\ \text { by müller }}$ |  |
| :---: | :---: |
| 872 110 led | Suitable for |
| Housing colour | RLC, LED \& CFL |

- LED-Load trailing edge 4-350 W

872110 le
RLC, LED \& CFL

- TRIAC Dimmer for dimmable LED Iamp
- DIN-rail mounting 87.5 mm
- Up to 1,200 W peak load per dimmer
- For leading edge

| -paladin <br> by müler | Suitable for |
| :---: | ---: |
| 879410 led | LED |
| Housing colour |  |

- Further functions for a flexible usage: Potentiometer

年
ED
(internal or external), pushbutton operation,
$0-10 \mathrm{~V}$ signal


## 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



## 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

| - müller | Channels |
| :---: | :---: |
| SC 98.40 knx | 4 |

- Daily, weekly and yearly program

SC 98.40 knx
4

- Programmable with PC and Smartphone (see accessories)

■ Data-key function (see accessories)

Following functions and data available via KNX bus:

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


Following functions and data available via KNX bus:

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



## hugomüller

## 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


- Light and temperature sensor

| ■ müller | Sensor |
| :---: | :---: |
| LS 30.00 knx | Lux, T |

- Lighting and temperature control
- Daily time switch

Housing colour

| - müller | Sensor |
| :---: | :---: |
| FU $\mathbf{4 0 . 0 0 ~ k n x ~}$ | GPS, Lux, T |

- Lighting and temperature control
- Daily and astro time switch

F ${ }^{2}$.0. GPS, Lux, T

Following functions and data available via KNX bus:

- Time switch (standard)
- Light control

- Time switch (standard)
- Light control
- Temperature 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, $\mathrm{CO}_{2}$-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 $\pm 3^{\circ} \mathrm{C}$

| -müller | Version | Sensor |
| :--- | :--- | :---: |
| TS 30.10 knx |  | T |
| TS 31.10 knx | T manual $\pm 3^{\circ}$ | T |
| THousing colour |  |  |

$\sigma$ Housing colour

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
- $\mathrm{CO}_{2}$ control
- Dewpoint
- Air pressure
- VAV control


Following functions and data available
via KNX bus:

- Temperature control
- Rel. humidity control
- $\mathrm{CO}_{2}$ control
- Binary and analogue inputs
- Dewpoint
- Air pressure

- VAV control


## : hugomüller

## Connect

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

- Product for KNX installations
- Various functions and options - configurable via ETS:
- Threshholds for temperature, humidity, CO-concentration
- Compact housing (wall-mounting)
- PI- and 2-point control


Following functions and data available
via KNX bus:

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



## KNX Dimmers for DIN-rail mounting

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

- Dimming actuator for dimmable RGBW LED strips
- 4 channels with up to 10 A per channel
- Configurable as 4 single colored LED strips dimmer
- RGB + W or RGBW LED strips
- Pulse width modulation (PWM)
- 12-48 V DC

- Dimming actuator / DALI gateway for DALI drivers and ballasts (ECG's)
- 3 channels up to 64 devices per channel

| by müller |
| ---: |
| 879443 knx |

- Max. 128 devices in total
- Broadcast communication
- 1 group per channel



## 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




## Connect

## KNX-RF compatible switching actuators

- Products for the building automation
- Included RF-Repeater function

KNX compatible
■ Usable as stand-alone wireless (RF) solution

- Switching capacity 16 A

■ Usable in combination with KNX-TP bus via optional gateway

- Easy connection of RF components via push-button linking process (Easy-Mode)
- Switching actuator 1-channel
- DIN-rail mounting 17,5 mm

| - paladin <br> by müller | Mounting |
| :--- | ---: |
| 672730 rf | DIN-rail |
| Housing colour |  |

- Additional input for wired push button
- Switching actuator 1-channel/ thermostat
- DIN-rail mounting $17,5 \mathrm{~mm}$
- Control for HVAC applications, adjustable temp. $+5 \ldots+30^{\circ} \mathrm{C}$
- Useable in combination with wireless temperature sensor

| -paladin <br> by müller | Mounting |
| :--- | ---: |
| 672731 rf | DIN-rail |
| Whosing colour |  |

- Optionally coupleable with wireless door / window contact

■ Optionally coupleable with wireless presence detector

- Switching actuator 1-channel
- Flush-mounted fitting

| -paladin by müler $^{\text {an }}$ | Mounting |
| :---: | :---: |
| 673730 rf | flush-mounted fitting |

(3 sec. - 5 min.)
-

- Additional input for wired push button

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




## Connect

- 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

| - paladin <br> by müler | suitable for |
| :---: | :---: |
| 673830 off | LED \& RLC |
| housing colour |  |

- Minimum dimming-value adjustable

Vhousing colour

- Additional input for wired push button

- 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 673010 rf
- Additional input for wired push button
- Amplifier available (see accessories)

- Dimmer for 1-10 V light control
- Controls up to 100 drivers
- Ideal in combination with transmitter paladin 673010 rf

-paladin | by müller |
| :---: |

suitable for

- Ideal in combination with transmitter p
- Additional input for wired push button

673833 rf
$\sigma$ housing colour


KNX compatible

## 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-RF compatible products


■ Power supply via KNX-Bus

- 16 independant RF-channels


## Connect

- Product 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

| -paladin <br> by müller | Mounting |
| :--- | ---: |
| 673620 rf | Flush-mounted fitting |
| $W$ housing colour |  |

## KNX compatible




## 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 $\sim 8$ years

■ Ideal for universal dimmers 673830 rf, 673831 rf,

| $\substack{\text { - paladin } \\ \text { by müler }}$ | Version |
| :---: | ---: |
| 676010 off | 1-channel |
| housing colour |  | 673833 rf, 673834 rf, 674830 rf



- Wireless remote control / transmitter 5-channel
- Battery operated (included),

| - paladin <br> by müler | Version |
| :--- | ---: |
| 670010 rf | 5-channels |
| hhousing colour |  |

- Ideal for universal dimmers 673830 rf, 673831 rf, 673833 rf, 673834 rf, 674830 rf

- Binary interface / wireless transmitter 1-channel
- Flush-mounted fitting
- Input for two wired push buttons
- Functions: Switching, dimming, blinds control,

| ■paladin <br> by müler | Version |
| ---: | ---: |
| 673010 rf | 1 channel |
|  | Input for two push buttons |

scene control (scene 1/2)
housing colour Input for two push buttons

- Battery operated (included),
battery lifetime $\sim 8$ years

- Temperature sensor with external probe ( 3 m )
- Flush-mounted fitting
- Measuring range $-20^{\circ} \mathrm{C} \ldots+55^{\circ} \mathrm{C}$
- Transmission intervall (temperature): $1 / \mathrm{min}$.
- Integrated RF-Repeater function

| -paladinn <br> by müller | Version |
| :--- | ---: |
| 673310 rf | Temperature sensor <br> with external probe |
| housing colour |  |



- Motion detector / presence detector
- Flush-ceiling mounting
-paladin
Version
- Two operating modes

674110 rf

- Coverage area $\emptyset 7 \mathrm{~m}$ at $2,5 \mathrm{~m}$ height

Thousing colour

- Battery operated (included), battery lifetime $\sim 4$ years


## KNX compatible



## Connect

## KNX-RF compatible wireless sensors / transmitters

- Products for the building automation
- Battery operated (included)

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)
- Wall mounting
- Door-/ window contact sensor
- Transmission of open / close status change via RF
- Battery lifetime $\sim 12$ years

- Brightness sensor
- For sun protection applications

■ Compatible with blinds control 674730 rf

- Battery lifetime $\sim 8$ years

- Temperature sensor
- Transmission of temperature value via RF
- Battery lifetime $\sim 8$ years

| -paladin | Version | Sensor |
| :---: | :---: | :---: |
| 676310 rf |  | T |
| 676311 rf | T manual | T |

## KNX compatible



## h h g o müller

## Connect

## Modbus Sensors

- Sensors for indoor use (IP 20)

■ Modbus-Modes (ASCII / RTU) configurable

- Compact housing (wall-mounting)
- Adjustable baud rate
- Adjustable parities

- Sensor for temperature measurement
- Sensor for humidity measurement
- Sensor for atmospheric pressure measurement

| - müller | Sensor |
| :--- | ---: |
| GS $\mathbf{3 0 . 0 0 ~ m o d ~}$ | RH, T |
| Housing colour |  |


| - Sensor for $\mathrm{CO}_{2}$ measurement |  |  |  |
| :---: | :---: | :---: | :---: |
|  | - Sensor for humidity measurement <br> - Sensor for atmospheric pressure measurement | $\text { GS } 40.00 \mathrm{mod}$ <br> /Housing colour | $\mathrm{CO}_{2}, \mathrm{RH}, \mathrm{T}$ |
| notur |  |  |  |

Following registers available via Modbus:

- Temperature (value range: $0^{\circ} \mathrm{C}-50^{\circ} \mathrm{C}$ )


Following registers available via Modbus:

- Temperature (value range: $0^{\circ} \mathrm{C}-50^{\circ} \mathrm{C}$ )
- Humidity (value range: $0^{\circ} \mathrm{C}-100 \%$ )
- Dew point (value range: $-40^{\circ} \mathrm{C}-125^{\circ} \mathrm{C}$ )
- Absolute atmospheric air pressure (value range: $400 \mathrm{hPa}-1100 \mathrm{hPa}$ )


Following registers available via Modbus:

- Temperature (value range: $0^{\circ} \mathrm{C}-50^{\circ} \mathrm{C}$ )
- Humidity (value range: $0^{\circ} \mathrm{C}-100 \%$ )
- $\mathrm{CO}_{2}$ (value range: $390 \mathrm{ppm}-10.000 \mathrm{ppm}$ )
- Dew point (value range: $-40^{\circ} \mathrm{C}-125^{\circ} \mathrm{C}$ )

■ Absolute atmospheric air pressure (value range: $400 \mathrm{hPa}-1100 \mathrm{hPa}$ )


## hugom üller

## Feel well

## Air quality sensor

- Detection of the air quality:
- $\mathrm{CO}_{2}$ sensor (atmospheric pressure compensated)
- Relative humidity sensor
- Temperature sensor
- 3 control outputs ( $0-10 \mathrm{~V}$ ) for measured values of $\mathrm{CO}_{2}$ concentration, rel. humidity and temperature
- Control of the $\mathrm{CO}_{2}$ 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




Retaining clip for Bx 40 / TC x4 Order number 715.003
$\nabla_{\text {Housing colour }}$


Retaining clip for Bx 30 Order number 715.005
$\sigma \nabla_{\text {Housing colour }}$


Self-adhesive seal (anti-twist protection)
for Bx 40 / TC x4 / SC 24.10 pro
Order number 101.001
$\nabla_{\text {Housing colour }}$

IP54-Seal
IP54-Seal
for Bx 40 / TC x4 / SC 24.10 pro
Order number 101.003
$\sigma V_{\text {Housing colour }}$

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## 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)


| PP 50.00 pro | USB |
| :--- | ---: |
| PP 60.00 pro |  |

$V_{\text {Housing colour }}$

- 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
FU 20.00 pro
Housing colour

- Radio receiver GPS-Time
- Accessory for devices of the pro-series and SC 98.40 knx
- Wall mounting
müller Version
- Connection wire specifications: 3-wire, no shield,

| FU 30.00 pro | without power supply |
| :--- | ---: |
| FU 35.00 pro | power supply for DIN-rail included |
| Hosing colowr |  | variable core cross-section

- Reception and processing of GPS time signal

- Amplifier for LED strips
- Flush-mounted fitting
- LED strips up to 8 A

| - paladin <br> by mülier | suitable for |
| :--- | ---: |
| 873 041 amp | LED strips |
| Housing colour |  | 673831 rf and 674830 rf

- 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: $-15 \ldots+70^{\circ} \mathrm{C}$
- Sensor NTC 10 kOhm, nominal length 28 mm , diameter $7,7 \mathrm{~mm}$
- Cable: 4 m PVC/PVC black (H03 VV-F)
- Type of protection: IP 65




## : h u g o m ül| er

switching controlling counting

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