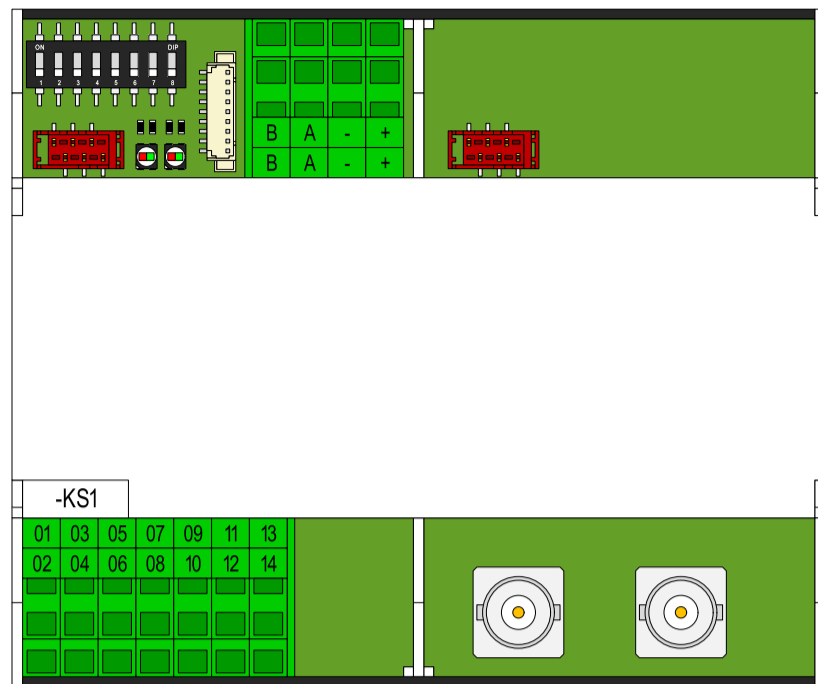


Image



Connection data

| | | |
|---|----------|----------------------------|
| + | DC24V[+] | Power supply DC24V[+] |
| + | DC24V[+] | Power supply DC24V[+] |
| - | DC24V[-] | Power supply DC24V[-] |
| - | DC24V[-] | Power supply DC24V[-] |
| A | RS485[A] | Communication bus RS485[A] |
| A | RS485[A] | Communication bus RS485[A] |
| B | RS485[B] | Communication bus RS485[B] |
| B | RS485[B] | Communication bus RS485[B] |

| | | |
|----|--------|-----------------------------|
| 01 | NA | Not available |
| 02 | NA | Not available |
| 03 | NA | Not available |
| 04 | NA | Not available |
| 05 | NA | Not available |
| 06 | NA | Not available |
| 07 | DC24V | DC24V[+][commonFET outputs] |
| 08 | DC24V | DC24V[+][commonFET outputs] |
| 09 | NA | Not available |
| 10 | OUT_D1 | Output FET 1 |
| 11 | NA | Not available |
| 12 | NA | Not available |
| 13 | NA | Not available |
| 14 | NA | Not available |

| | | |
|----|------|-----------|
| 15 | pH_1 | Input pH1 |
| 16 | pH_2 | Input pH2 |

Commercial data

| | |
|----------------------|--|
| Product code | 20801610 |
| Product description | Smartswitch 21-5091b[00]_00 pH control pulse |
| Packing unit | 1 |
| Weight | 0.154 [kg] |
| Custom tariff number | 8537.10.91 |
| Country of origin | NL (Netherlands) |

Dimensions

| | |
|--------|-------------|
| Width | 107.60 [mm] |
| Height | 89.60 [mm] |
| Depth | 82.50 [mm] |

Standards and regulations

| | |
|------|--|
| EMC | Conformance with EMC directive 2014/30/EU |
| RoHS | Conformance with RoHS directive 2011/65/EU |
| WEEE | Conformance with WEEE directive 2002/96/EC |

Connection data, details

| | | |
|---|----------|--|
| + | DC24V[+] | Terminal power supply DC24V of Smartswitch, polarity [PLUS]. The free [PLUS][+] terminal can be used to supply power to a continuous Smartswitch. |
| + | | |
| - | DC24V[-] | Terminal power supply DC24V of Smartswitch, polarity [MIN]. The free [MIN][-] terminal can be used to supply power to a continuous Smartswitch. |
| - | | |
| A | RS485[A] | Terminal RS485 communication bus, signal line [A]. |
| A | | |
| B | RS485[B] | Terminal RS485 communication bus, signal line [B]. |
| B | | |

| | | |
|----|-------|---|
| 07 | DC24V | Field Effect Transistor [FET] for switching the power stage of an acid/lye dosing valve, dosing valve 1. The output switches to GND. |
| 08 | | |
| 10 | | |

| | | |
|----|------|---|
| 15 | pH_1 | Analog input for the signal of pH sensor 1. |
|----|------|---|

| | | |
|----|------|---|
| 16 | pH_1 | Analog input for the signal of pH sensor 2. |
|----|------|---|

Ambient conditions

| | | |
|--|---------------|---------------|
| Degree of protection | IP20 | |
| Ambient temperature (operation) | -10...50 [°C] | 14...122 [°F] |
| Ambient temperature (storage/transport) | -20...50 [°C] | -4...122 [°F] |
| Permissible humidity (operation) | 20...85 [%] | |
| Permissible humidity (storage/transport) | 20...85 [%] | |

Terminal data

| | |
|---------------------------------------|-----------|
| Conductor cross section solid min. | 0.2 [mm²] |
| Conductor cross section solid max. | 2.5 [mm²] |
| Conductor cross section flexible min. | 0.2 [mm²] |
| Conductor cross section flexible max. | 2.5 [mm²] |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |

General

| | |
|---------------|---|
| Mounting type | DIN rail mounting according to EN 60715 |
|---------------|---|

Supply voltage

| | |
|-------------------------------|----------------------------------|
| Power supply | DC24V |
| Current consumption typically | ≤ 100 [mA], at DC24V, at 25 [°C] |

Data interface

| | |
|--------------------------|-------------------------------------|
| Interface 1 | RS485 |
| Connection method | Spring-cage connection |
| Transmission medium | 2-wire Twisted-Pair + signal ground |
| Transmission length max. | 1200 [m] 1 |
| Transmission speed | 115.2 [kBit/s] |

Acidity input

| | |
|------------------|--------------|
| Number of inputs | 2 |
| Measuring range | 0.0 ... 10.0 |

FET output

| | |
|------------------------|-------------------------|
| Number of outputs | 1 |
| Switching function | Switches to GND |
| Switching current max. | 100 [mA], at 24 [V], DC |

Notification

| Location | LED status | Status Smartswitch control |
|----------|--------------------|--|
| PCB [1] | Green continuously | Smartswitch connection with touchscreen controller is active. Smartswitch control is inactive. |
| | Green blinking | Smartswitch connection with touchscreen controller is active. Smartswitch control is active. Smartswitch control alarm status is inactive. |
| | Red continuously | Smartswitch connection with touchscreen controller is inactive. Smartswitch control is inactive. |
| | Red blinking | Smartswitch connection with touchscreen controller is active. Smartswitch control is active. Smartswitch control alarm status is active. |

| Location | LED status | Status bus communication |
|----------|----------------|---|
| PCB [2] | Green blinking | Smartswitch is receiving data over the bus [Rx]. |
| | Red blinking | Smartswitch is transmitting data over the bus [Tx]. |

pH sensor

| | | |
|---------------------|-------------------------------|------|
| Product code | 04002010 | |
| Product description | PHC pH sensor (0 - 7 bar) BNC | |
| [15] - pH_1 | BNC | Coax |

| | | |
|---------------------|-------------------------------|------|
| Product code | 04002010 | |
| Product description | PHC pH sensor (0 - 7 bar) BNC | |
| [16] - pH_1 | BNC | Coax |

Remarks

| | |
|---|---------------------------------|
| 1 | Transmission length max. |
| The transmission length max. (i.e. Maximum length of the RS485 BUS-cable in the installation) of 1200 [m], only applies when a suitable RS485 Bus-cable type is utilized in the installation. | |
| General specification for RS485 BUS-cable: | |
| <ul style="list-style-type: none"> • Suitable for bus systems based on RS485, • Twisted pair(s), • Shielded, • Characteristic impedance 120 [Ohm]. | |
| Recommended cable types: | |
| 32002810 Buskabel UNITRONIC BUS LD 2x2x0.22 100 [m] | |
| 32002811 Buskabel UNITRONIC BUS LD 2x2x0.22 300 [m] | |
| 32002812 Buskabel UNITRONIC BUS LD 2x2x0.22 500 [m] | |
| 32002820 Buskabel UNITRONIC BUS LD 3x2x0.22 100 [m] | |

Schematic

