



## SUCO 0530 ELECTRONIC PRESSURE SWITCH

053010230B011

PNP output (High Side), NO, 0-100 Bar, M10x1 zyl. DIN 3852-A, Cable connection

- One switching output
- Stainless steel & titanium wetted parts
- Silicon-on-sapphire technology
- Factory set



### PRODUCT DESCRIPTION

The Suco high performance series of electronic pressure switches offers outstanding overpressure protection (up to 4x), long service life even under high pressure change rates whilst giving very low temperature error and excellent long-term stability. Using Silicon-on-sapphire technology for high reliability, EMC compatibility and accuracy there are five standard pressure ranges starting at 0-10 bar all the way up to 0-600 bar and a hysteresis of 0.2%-99.8%. Output option of PNP or NPN and the choice of normally open or normally closed with one switching output factory set (unadjustable by the user). The wetted parts are made of stainless steel and titanium in an all welded design ensuring excellent media compatibility with seven standard electrical connection options including Deutsch, DIN and M12 combined with eight standard thread type options.

Customer specific solutions are also available on request.

#### Application examples

- Automotive
- Braking systems
- Medical
- Mobile hydraulics
- Off highway
- Off-shore
- Rail

## TECHNICAL DATA

### GENERAL DATA

|                       |                   |
|-----------------------|-------------------|
| Adjustment range max  | 100 bar           |
| Adjustment range min  | 0 bar             |
| Electrical connection | Embedded 2m cable |
| Process connection    | M10x1             |

|                       |                      |
|-----------------------|----------------------|
| <b>Function</b>       | Normally open (SPST) |
| <b>Output</b>         | PNP                  |
| <b>Burst pressure</b> | 800 bar              |
| <b>Pressure max</b>   | 400 bar              |

## TEMPERATURE & MATERIALS DATA

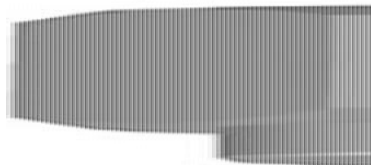
|                                  |                                  |
|----------------------------------|----------------------------------|
| <b>Temperature of media from</b> | -40 °C                           |
| <b>Temperature of media to</b>   | 125 °C                           |
| <b>Temperature ambient from</b>  | -40 °C                           |
| <b>Temperature ambient to</b>    | 100 °C                           |
| <b>Material of body</b>          | Stainless steel 1.4305           |
| <b>Material of wetted parts</b>  | Stainless steel 1.4305, Titanium |

## ADDITIONAL DATA

|   |  |
|---|--|
| <b>Supply voltage dc max</b>            | 32 V DC  |
| <b>Supply voltage dc min</b>            | 9.6 V DC   |
| <b>Pressure rise</b>                    | ≤ 5,000 bar/s  |
| <b>Switching time</b>                   | < 2 ms   |
| <b>Switching point adjustment range</b> | 2 ... 100 % of the nominal pressure range Full Scale (FS), programmable at factory |
| <b>Weight</b>                           | 135 g  |

## SAFETY & APPROVALS

|                                   |   |
|-----------------------------------|---|
| <b>IP class</b>                   | IP67  |
| <b>Hysteresis</b>                 | 2..99.8% of nominal pressure range (full scale), programmable at factory  |
| <b>Shock resistance</b>           | 500m / s <sup>2</sup> ; 11 ms half sine wave; DIN EN 60068-2-27           |
| <b>Vibration resistance</b>       | 20g: 4..2000 Hz sine wave, DIN EN 60068-2-6                               |
| <b>EMC</b>                        | EMC 2014/30/EU, EN 61000-6-2:2005, EN 61000-6-3:2007                      |
| <b>Accuracy</b>                   | ±0.5 % of adjustment range (Full scale) at room temperature               |
| <b>Long term stability</b>        | ±0.1 % of adjustment range (full scale) per year                          |
| <b>Mechanical life expectancy</b> | 10,000,000 switching cycles at rise rates to 5,000 bar/s nominal pressure |
| <b>Repeatability</b>              | ±0.1 % full scale   |



| DIN EN 175301-803-A   | M 12 - DIN EN 61076-2-101 A | ISO 15176-A1-4.1       | AMP Supersaal          |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
|---|-----------------------------|------------------------|------------------------|------------------|---|------------------|---|------------------|---|------------------|---|-----|---|-----|------------|---|------------------|---|------------------|---|------------------|---|------------------|---|-----|---|-------|------------|---|------------------|---|------------------|---|------------------|---|------------------|---|-----|---|-----|------------|---|-----|---|-----|---|-----|---|-----|---|-----|
| <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>Out</td></tr> <tr><td>3</td><td>Out</td></tr> <tr><td>4</td><td>Out</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 62 / 76 \text{ mm}^*</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 001<br/> *without cable length = 0 m, with cable length = 10 m</p>                           | Pin                         | Assignment             | 1                      | U <sub>1</sub> + | 2 | Out              | 3 | Out              | 4 | Out              | 5 | Out | <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>U<sub>1</sub>-</td></tr> <tr><td>3</td><td>U<sub>2</sub>+</td></tr> <tr><td>4</td><td>U<sub>2</sub>-</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 54 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 002<br/> *without cable length = 0 m, with cable length = 10 m</p> | Pin | Assignment | 1 | U <sub>1</sub> + | 2 | U <sub>1</sub> - | 3 | U <sub>2</sub> + | 4 | U <sub>2</sub> - | 5 | Out | <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>U<sub>1</sub>-</td></tr> <tr><td>3</td><td>U<sub>2</sub>+</td></tr> <tr><td>4</td><td>U<sub>2</sub>-</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 65 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 004<br/> *without cable length = 0 m, with cable length = 10 m</p>   | Pin   | Assignment | 1 | U <sub>1</sub> + | 2 | U <sub>1</sub> - | 3 | U <sub>2</sub> + | 4 | U <sub>2</sub> - | 5 | Out | <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>Out</td></tr> <tr><td>2</td><td>Out</td></tr> <tr><td>3</td><td>Out</td></tr> <tr><td>4</td><td>Out</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 71 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 003<br/> *without cable length = 0 m, with cable length = 10 m</p> | Pin | Assignment | 1 | Out | 2 | Out | 3 | Out | 4 | Out | 5 | Out |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
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| 1   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
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| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Cable   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| <p>Thread code: 42</p>  | <p>Thread code: 43</p>      | <p>Thread code: 44</p> | <p>Thread code: 45</p> |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |



hex 221

Connection diagrams



Pin assignment depending on each connector



Pin assignment depending on each connector

Technical modifications and errors excepted.

| DIN EN 175301-803-A   | M 12 - DIN EN 61076-2-101 A | ISO 15176-A1-4.1       | AMP Supersaal          |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
|---|-----------------------------|------------------------|------------------------|------------------|---|------------------|---|------------------|---|------------------|---|-----|---|-----|------------|---|------------------|---|------------------|---|------------------|---|------------------|---|-----|---|-------|------------|---|------------------|---|------------------|---|------------------|---|------------------|---|-----|---|-----|------------|---|-----|---|-----|---|-----|---|-----|---|-----|
| <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>Out</td></tr> <tr><td>3</td><td>Out</td></tr> <tr><td>4</td><td>Out</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 62 / 76 \text{ mm}^*</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 001<br/> *without cable length = 0 m, with cable length = 10 m</p>                           | Pin                         | Assignment             | 1                      | U <sub>1</sub> + | 2 | Out              | 3 | Out              | 4 | Out              | 5 | Out | <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>U<sub>1</sub>-</td></tr> <tr><td>3</td><td>U<sub>2</sub>+</td></tr> <tr><td>4</td><td>U<sub>2</sub>-</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 54 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 002<br/> *without cable length = 0 m, with cable length = 10 m</p> | Pin | Assignment | 1 | U <sub>1</sub> + | 2 | U <sub>1</sub> - | 3 | U <sub>2</sub> + | 4 | U <sub>2</sub> - | 5 | Out | <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>U<sub>1</sub>-</td></tr> <tr><td>3</td><td>U<sub>2</sub>+</td></tr> <tr><td>4</td><td>U<sub>2</sub>-</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 65 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 004<br/> *without cable length = 0 m, with cable length = 10 m</p>   | Pin   | Assignment | 1 | U <sub>1</sub> + | 2 | U <sub>1</sub> - | 3 | U <sub>2</sub> + | 4 | U <sub>2</sub> - | 5 | Out | <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>Out</td></tr> <tr><td>2</td><td>Out</td></tr> <tr><td>3</td><td>Out</td></tr> <tr><td>4</td><td>Out</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 71 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 003<br/> *without cable length = 0 m, with cable length = 10 m</p> | Pin | Assignment | 1 | Out | 2 | Out | 3 | Out | 4 | Out | 5 | Out |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>U<sub>1</sub>-</td></tr> <tr><td>3</td><td>U<sub>2</sub>+</td></tr> <tr><td>4</td><td>U<sub>2</sub>-</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 54 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 004<br/> *without cable length = 0 m, with cable length = 10 m</p> | Pin                         | Assignment             | 1                      | U <sub>1</sub> + | 2 | U <sub>1</sub> - | 3 | U <sub>2</sub> + | 4 | U <sub>2</sub> - | 5 | Out | <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>U<sub>1</sub>-</td></tr> <tr><td>3</td><td>U<sub>2</sub>+</td></tr> <tr><td>4</td><td>U<sub>2</sub>-</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 54 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 005<br/> *without cable length = 0 m, with cable length = 10 m</p> | Pin | Assignment | 1 | U <sub>1</sub> + | 2 | U <sub>1</sub> - | 3 | U <sub>2</sub> + | 4 | U <sub>2</sub> - | 5 | Out | <table border="1"> <tr><th>Cable</th><th>Assignment</th></tr> <tr><td>1</td><td>U<sub>1</sub>+</td></tr> <tr><td>2</td><td>U<sub>1</sub>-</td></tr> <tr><td>3</td><td>U<sub>2</sub>+</td></tr> <tr><td>4</td><td>U<sub>2</sub>-</td></tr> <tr><td>5</td><td>Out</td></tr> </table> <p>IP67<br/> <math>\Phi = 54 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> <math>\Phi = 10 \text{ mm}</math><br/> Order number: 006<br/> *without cable length = 0 m, with cable length = 10 m</p> | Cable | Assignment | 1 | U <sub>1</sub> + | 2 | U <sub>1</sub> - | 3 | U <sub>2</sub> + | 4 | U <sub>2</sub> - | 5 | Out | <p>Thread code: 41</p>  |     |            |   |     |   |     |   |     |   |     |   |     |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Pin   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| Cable   | Assignment                  |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 1   | U <sub>1</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 2   | U <sub>1</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 3   | U <sub>2</sub> +            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 4   | U <sub>2</sub> -            |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| 5   | Out                         |                        |                        |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |
| <p>Thread code: 42</p>  | <p>Thread code: 43</p>      | <p>Thread code: 44</p> | <p>Thread code: 45</p> |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |                  |   |                  |   |                  |   |                  |   |     |   |       |            |   |                  |   |                  |   |                  |   |                  |   |     |   |     |            |   |     |   |     |   |     |   |     |   |     |



hex 221

Connection diagrams



Pin assignment depending on each connector



Pin assignment depending on each connector

Technical modifications and errors excepted.