

Signal converter

| | | |
|------------------------|-----------------|--------------------------------|
| Signal splitter | SP 2D-2D | HTL, RS422 / HTL, RS422 |
|------------------------|-----------------|--------------------------------|



The signal splitter SP 2D-2D is a universal encoder interface (without potential separation) with 2 incremental encoder inputs for level conversion, distribution as well as contactless and bounce-free switching of encoder signals to the HTL or RS422 format.

The module can be easily and conveniently mounted in a cabinet on a standard DIN rail.



Power supply



Input frequency



Output frequency



DIN-rail mounting

Characteristics

- 2 pulse inputs in the format A, B, 0 [HTL] or A, /A, B, /B, 0, /0 [RS422].
- Input frequency up to 250 kHz for asymmetrical signals and up to 1 MHz for symmetrical signals.
- 2 control inputs for HTL / PNP signals [10 ... 30 V DC].
- 2 output channels in the format A, B, 0 [HTL] or A, /A, B, /B, 0, /0 [RS422], separately adjustable for every output.

Benefits

- Lost-free duplication of encoder signals.
- Conversion from TTL into HTL and vice versa possible.
- 2 different synchronous signal outputs for 2 different terminal devices.

Order no.

Signal splitter

8.SP.2D-2D

Scope of delivery

- Signal splitter
- Manual

Signal converter

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Technical data

| Electrical characteristics | |
|--|---|
| Power supply | 12 ... 30 V DC (residual ripple ≤ 10 % at 24 V DC) |
| Power consumption (no load) | max. 50 mA |
| Reverse polarity protection of the power supply | yes |
| Type of connection | screw terminal, 1.5 mm ² |
| Encoder supply | output voltage 5.2 V DC and 10 ... 28 V DC (approx. 2 V DC lower than input voltage) output current max. 125 mA protective circuit short-circuit proof type of connection screw terminal, 1.5 mm ² |
| Conformity and standards | |
| EMC guideline 2014/30/EU | EN 61000-6-2, EN 61000-6-3, EN 61000-6-4 |
| RoHS guideline 2011/65/EU | EN 50581 |

| Mechanical characteristics | |
|-------------------------------|--|
| Material | housing plastic |
| Mounting | 35 mm DIN rail (acc. to EN 60715) |
| Dimensions (W x H x D) | 22.5 x 102 x 102 mm [0.89 x 4.02 x 4.02"] |
| Protection | IP20 |
| Weight | approx. 100 g [3.53 oz] |
| Working temperature | -20°C ... +60°C [-4°F ... +140°F] non condensing |
| Storage temperature | -30°C ... +75°C [-22°F ... +167°F] non condensing |

| Incremental inputs X3, X4 | |
|----------------------------|---|
| Number of inputs | 2 |
| Level | TTL / RS422 (differential signal > 1 V) or HTL (10 ... 30 V) |
| Tracks | HTL / TTL symmetrical A, /A, B, /B, 0, /0 HTL asymmetrical A, B, 0 |
| Frequency | TTL symmetrical max. 1 MHz HTL asymmetrical max. 250 kHz |
| Internal resistance | R _i = 4.7 kOhm |

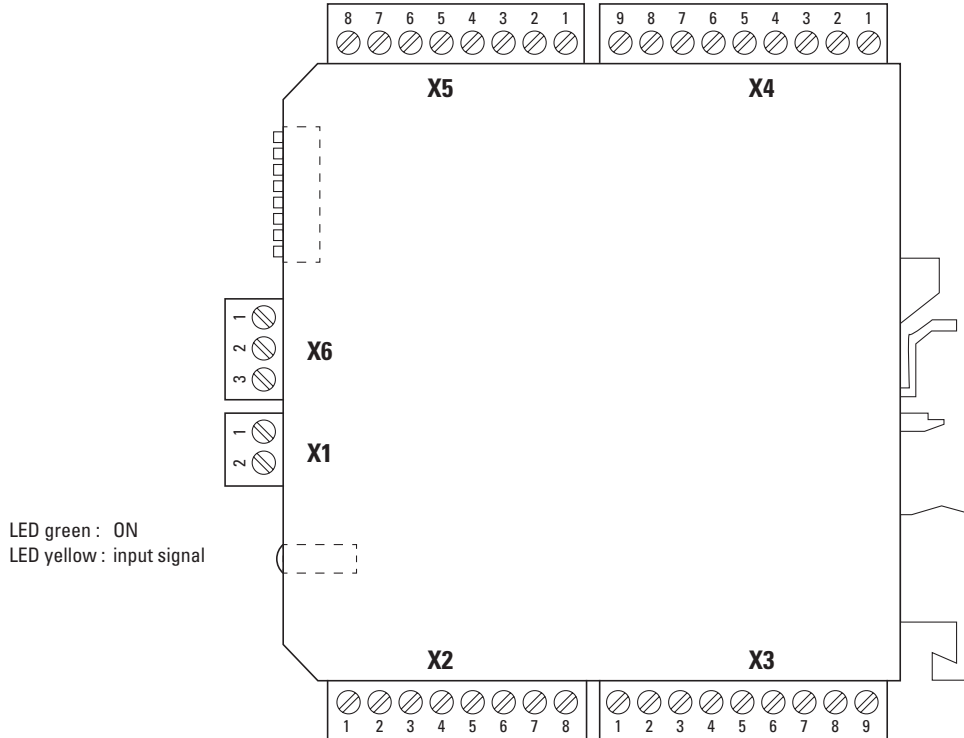
| Control inputs X6 | |
|-------------------|--|
| Number | 2 |
| Use | contactless & bounce-free signal path switching |
| Level | HTL, PNP (10 ... 30 V) |

| Incremental outputs X2, X5 | |
|--------------------------------|--|
| Number of outputs | 2 |
| Level | adjustable for TTL / RS422 or HTL (12 ... 30 V, power supply) |
| Tracks | A, /A, B, /B, 0, /0 |
| Output current | max. 30 mA (per channel) |
| Output stage | Push-Pull |
| Signal propagation time | approx. 600 ns |
| Protective circuit | short-circuit proof |

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Terminal assignment



| Interface | Function | Screw terminal, 2-pin | | |
|----------------------|--------------|-----------------------|-----|----|
| Connection X1 | Power supply | Signal: | 0 V | +V |
| | | Pin: | 2 | 1 |

| Interface | Function | Screw terminal, 3-pin | | | |
|----------------------|---------------|-----------------------|----------|----------|-----|
| Connection X6 | Control input | Signal: | Contr. 1 | Contr. 2 | 0 V |
| | | Pin: | 1 | 2 | 3 |

| Interface | Function | Screw terminal, 9-pin | | | | | | | | | |
|--------------------------|-----------------|-----------------------|-----|----------------------|---|-----------|---|-----------|---|-----------|---------------------|
| Connection X3, X4 | Input TTL / HTL | Signal: | 0 V | 5.2 V _{out} | A | \bar{A} | B | \bar{B} | 0 | $\bar{0}$ | 24 V _{out} |
| | | Pin X3: | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| | | Pin X4: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| Interface | Function | Screw terminal, 8-pin | | | | | | | | |
|--------------------------|------------------|-----------------------|-----|---|-----------|---|-----------|---|-----------|---|
| Connection X2, X5 | Output TTL / HTL | Signal: | 0 V | A | \bar{A} | B | \bar{B} | 0 | $\bar{0}$ | – |
| | | Pin X2: | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| | | Pin X5: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

- +V : Power supply
- 0 V : Encoder power supply ground GND (0 V)
- V_{in}, V_{out} : Power supply encoder
- Contr. 1 / 2 : Control inputs
- A, \bar{A} : Incremental output channel A (Cosine)
- B, \bar{B} : Incremental output channel B (Sine)
- 0, $\bar{0}$: Reference signal

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Dimensions

Dimensions in mm [inch]

