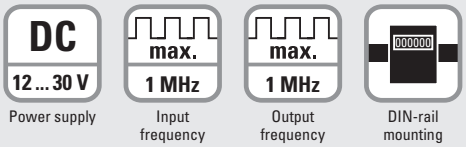
Signal splitter	SP 2D-2D	HTL, RS422 / HTL, RS422



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.



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

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

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 mm²
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 mm²
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		Ri ≈ 4.7 kOhm

Control inputs X6

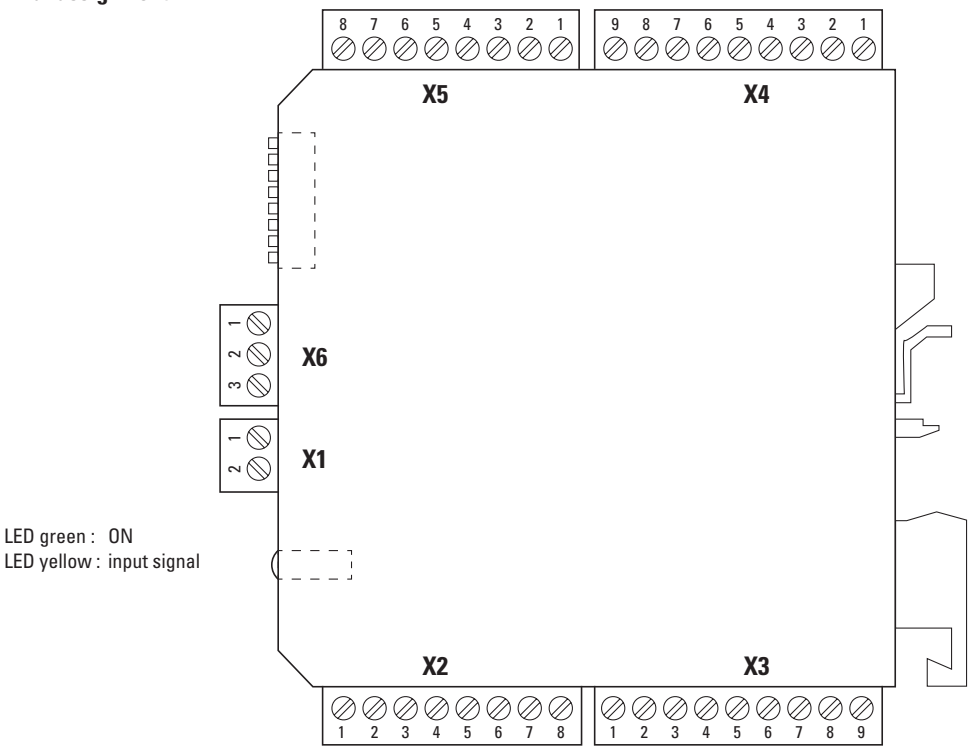
Number	2
Use	contactless & bounce-free signal path switching
Level	HTL, PNP (10 ... 30 V)

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

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

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	$\overline{A}$	B	$\overline{B}$	0	$\overline{0}$	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	$\overline{A}$	B	$\overline{B}$	0	$\overline{0}$	–
		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, $\overline{A}$: Incremental output channel A (Cosine)
B, $\overline{B}$: Incremental output channel B (Sine)
0, $\overline{0}$: Reference signal

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

Dimensions

Dimensions in mm [inch]

