

signo 721



TECHNICAL DATA

GENERAL

Preset Counter

signo 721

- Most simple handling
- Impressive, clearly readable display in 48x48 mm
- Input frequency up to 60 kHz
- Easy installation due to pluggable terminals

Display	LCD reflective; positively transmissive; black digits; background illumination negatively transmissive; red digits; illumination 2 rows, counter reading/presettings 5-digits decimal point (up to 4 decimals)
Height of digits	1st row 12,0 mm; 2nd row 6,0 mm
Supply voltage	SELV: 12-30 VDC; protected against polarity reversal SELV: 24 VAC, 115 VAC, 230 VAC, 50/60 Hz, $\pm 10\%$ 90-260 VAC; 50/60 Hz*
Current consumption	12 ... 30 VDC: < 200 mA, 24 VAC < 250 mA; including sensor supply 115 VAC, 230 VAC < 50 mA; including sensor supply 90-260 VAC < 400 mA; incl. sensor supply
Power consumption	< 5 W
Duty cycle	100%
Overload protection	external fuse DC: 0,16 AT (IEC 127); DC: 0,2 AT (UL 198) 24 VAC: 315 mA 230 VAC: 32 mA; 115 VAC: 63 mA
Overload protection Relay output	external fuse 230 V, 2,5 mA
Sensor supply	Only for AC operation: 12-24 VDC load-dependent; max. 50 mA
Storage of values	NV-memory > 10 years
Electrical connections	Plug-in screw-type connections / Terminals
Cable cross-section	1...1.5 mm ² with wire-end sleeves

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Amplitude threshold	< 2 V and > 8 V or < 1 V and > 4 V at TTL-level amplitude max. 40 VDC
Active edge	programmable, positive for PNP-input, negativ for NPN-input
Pulse form	any desired form (at max. frequency square 1:1)
Input resistance	approx 10 kOhm
Clock frequency	max. 60 kHz (TTL 15 kHz): single-channel counting max. 60 kHz (TTL 15 kHz): Differential counting and totalizing channel (A+B together) max. 30 kHz (TTL 15 kHz): phase discriminator single or double evaluation max. 15 kHz (TTL 15 kHz): phase discriminator, quadruple evaluation damped (attenuated) 30 Hz
Pulse duration min.	17 ms (30 Hz); 8 µs (60 kHz)
Prescaler	0,0001 - 9,9999
Reset	manual reset via keyboard, external reset via static or dynamic programming; pulse length min. 5 ms, automatic reset after reaching Preselect 2, (No pulse losses at max. counter frequency due to automatic reset function). via application input (programmable)
Display and Preset Range	- 99 999 up to + 99 999
Signal times	0,01 s to 599,99 s or bistable programming; tolerance + 10 ms
Relay Output	Preset 1 und 2 Change-over contact max.: 250 VAC / 30 VDC / 5 A Change-over contact min.: 5 VAC / 5 VDC / 10 mA delay < 10 ms
Transistor Output	Preset 1 und 2 PNP-output 12 - 30 VDC max. 50 mA for DC supply 12 - 24 VDC max. 30 mA for AC supply 12 - 24 VDC max. 50 mA for AC with switching power supply**
Application Output	PNP output 12 - 30 VDC max. 20 mA at DC supply 12 - 24 VDC max. 20 mA at AC supply
Counter mode of operation Input A,B	Unidirectional; adding or subtracting; directional input; Differential operation, add / sub; Summation (Totalizing) add / add; Phase discriminator single, double or quadruple evaluation
Control Input	Reset; Gate, Hold
Application Input/ Output	Output Prescaler-out, Direction-out Input: Reset, Gate, Keylock, Hold

COUNTER

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ENVIRONMENT. CON. SAFETY RULES

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General design	IEC/EN 61 010-1
Protection Class	II; IEC/EN 61010-1
Pollution degree	2, EN 50178
EMC - Interference immunity	EN 61326-1 industrial environment *
EMC - Emission	EN 61326-1 Class B *
Ambient temperature	0°... 50°C EN 60 068-2-1/2
Storage temperature	- 20°... + 65°C EN 60 068-2-1/2
Climate	40°C / 93% rel hum. class 4K4H, EN 60 068-2-78 25 - 50°C / 93% rel hum., cyclic, EN 60 068-2-38
Degree of protection	IP 65 front side; EN 60529 IP 20 terminals
Vibration resistance	10 m/s ² (10 ... 150 Hz); EN 60 068-2-6
Shock resistance	100 m/s ² (18 ms); IEC 60 068-2-27
Resistance to chemicals	Frontfoil nach DIN 42 115-2
Approvals	UL, CSA (under preparation)
RoHS	compliant

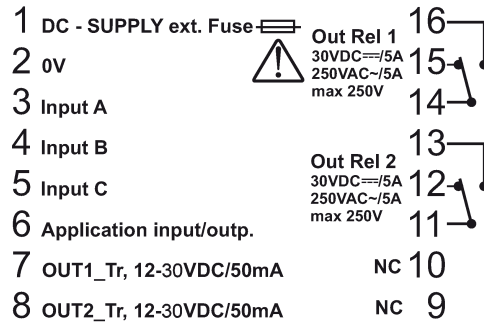
MECHANICAL DATA

Dimensions	48 mm x 48 mm x 118 mm, installation depth 110 mm DIN 43700
Installation	Front-panel installation with tenter (frame) Front panel thickness max. 11 mm
Front-panel cutout	45 mm x 45 mm +0,3 mm
Weight	approx. 200 g

* For cable length > 30 m, for connection to a DC-supply- network and input level TTL and additional protection circuit is necessary.

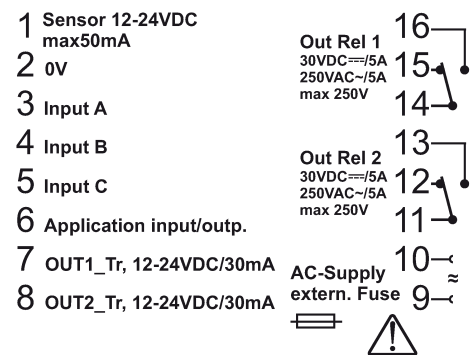
CONNECTIONS

2 721 209



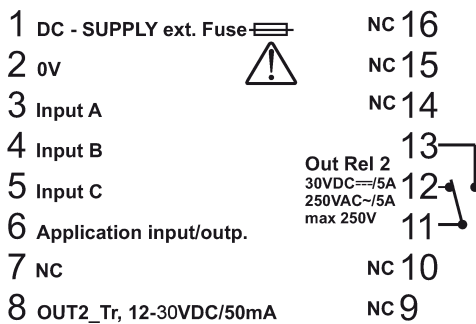
VDC 2 relais / 2 transistors

2 721 212



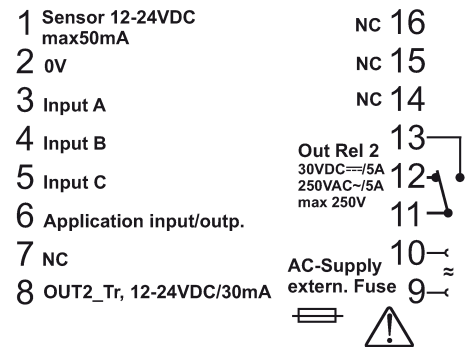
VAC Trafo 2 relais / 2 transistors

2 721 206



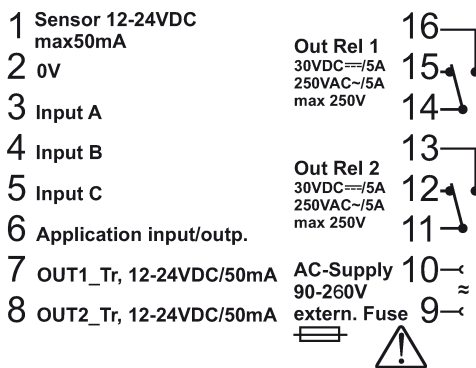
VDC 1 relay / 1 transistor

2 721 207



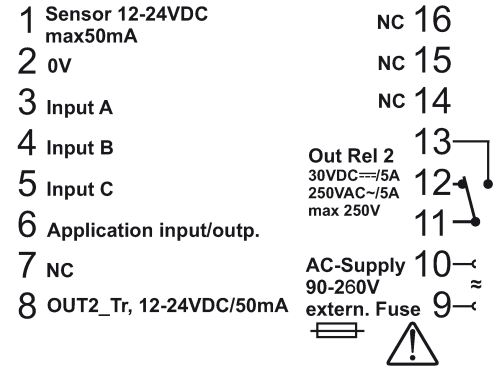
VAC Transformer 1 relay / 1 transistor

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VAC switching power supply 2 relais /
2 transistors

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VAC switching power supply 1 relay /
1 transistor

ORDERING INFORMATION

Display	Relay	12 - 30 VDC	24 VAC	115 VAC	230 VAC	90 - 260 VAC(SN)
LCD transmissive red	1	0 721 201				0 721 202
LCD transmissive red	2	0 721 205				0 721 206
LCD reflective	1	0 721 301	0 721 309	0 721 332	0 721 342	0 721 302
LCD reflective	2	0 721 305	0 721 310	0 721 336	0 721 346	0 721 306
LCD transmissive positive	1	0 721 401				0 721 402
LCD transmissive positive	2	0 721 405				0 721 406

Reflective: black digits on a bright reflecting background

Positively transmissive: black digits on an illuminated background

Negatively transmissive: red illuminated digits on a black background