

Electronic Limit Switch Contact Assemblies

with 3-Wire Slot Sensor PNP

for Switching DC Loads up to 100 mA, e.g. for SPS



Model

E

Application

The limit switch contact model E with 3-wire slot sensor PNP has been built for direct trigger of stored program systems (SPS), opto-electronic couplers and other low voltage control systems.

It is suitable for all pressure gauge sizes from nom. size 63 (2½") up to nom. size 160 (6").

For detailed information about limit switch contact assemblies, please note our general information sheet **9000**.

Dimensional drawings and special information about pressure gauges with built-in limit-switch contact assembly are to find in separate data sheets of the individual pressure gauge models with end numbers ..90 or ..91 resp. ..19.2.

Switch Operations

1 = **Making** contact (normally open):

Closes the circuit when the adjusted limit is passed in clockwise direction by moving the control lag into the slot

2 = **Breaking** contact (normally closed):

Opens the circuit when the adjusted limit is passed in clockwise direction by moving the control flag out of the slot

Diagram	Make/Break Operation (when pointer moves clockwise)	Ordering Code
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Contact Assembly with One Contact

	making	E 1
	breaking	E 2

Contact Assembly with Two Contacts

	1. and 2. contact both making	E 11
	1. contact making 2. contact breaking	E 12
	1. contact breaking 2. contact making	E 21
	1. and 2. contact both breaking	E 22



3 and 4 Fold Limit Switches

Available for various versions, compare data sheets of the measuring instrument, details upon request; wiring diagrams available upon request: the make/break-operations have to be named for clockwise pointer movement

Simultaneous switching:

3-fold: NCS 100: 2 set-pointers adjustable for simultaneous switching, e.g. **E 22.1** or **E 2.21**

NCS 160: 2 set-pointers adjustable for simultaneous switching as above; version with 3 contacts for simultaneous switchings optionally available upon request

4-fold: NCS 100: The two centre set pointers (2nd and 3rd contact) may be adjusted for simultaneous switching

NCS 160: 3 set-pointers adjustable for simultaneous switching, e.g. **E222.1** or **E 2.221**

The dot indicates the set pointer that cannot be set above the others. Minimum distance for non-simultaneous switching set pointers: NCS 100 (4"): 35°, NCS 160 (6"): 28°

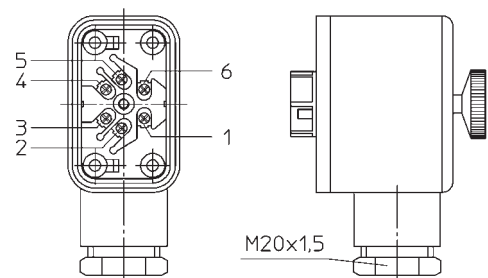
Adjustment

Depending on pressure gauge model and version

- Centrally cast into the polycarbonate window, or
- Nickel plated brass, centrally built into the window, removable key

Electrical Connections

For the electrical connections a terminal box is mounted on the pressure gauge case. Please compare the corresponding data sheets of the individual pressure gauge models to learn where exactly the terminal box is located at which case configuration. The terminals are numbered as shown below.



Electrical Data

see overleaf

How to Order:

Please note the information on the data sheet of the pressure gauge model with limit switch contact.

Model Code:

E

Make/Break-Operation:

1, 2, 11, 12, 21 or 22 (compare left)

Examples:

● E12 or ● E1, 2-wire



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9201

3/06

Electrical Data:

3-wire connection (Standard version)

2-wire connection (Special option)

Operating voltage (power supply)
Residual ripple
No-Load current
Reversal polarity
Anti-inductive protection
Oscillator frequency
EMV according EN 60947-5-2, ZA
Switching rate
Switching hysteresis - deadband
Temperature influence
Repetitive accuracy
Output system
Control element
Switching current

10 - 30 VDC
10 %
 ≤ 10 mA
limited (U_b)
1 kV, 0.1 ms, 1kOhm
approx. 1000 kHz
yes
1000 Hz
3 ... 15 %
 $\leq \pm 10$ %
 ≤ 2 %
PNP
"making"
 ≤ 100 mA

10 - 30 V DC
 ≤ 10 %
 $\leq 0,8$ mA (typ. $\leq 0,6$ mA)
yes
1 kV, 0.1 ms, 1kOhm
240 kHz
yes
1000 Hz
3 ... 15 %
 $\leq \pm 10$ %
 ≤ 2 %
PNP
"making"
 ≤ 100 mA

Other Data:

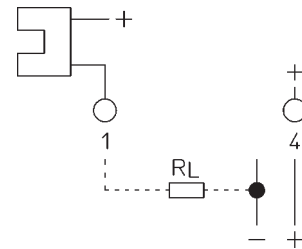
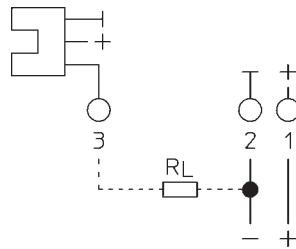
Protection type (EN 60529 / IEC 529)
Ambient temperature limits
Insulation electric strength
Cable section

IP67
-25 ... +70° C
0.5 kV
0.08 mm²

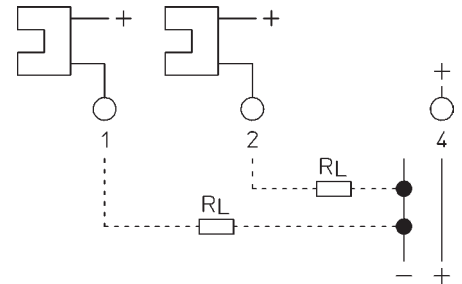
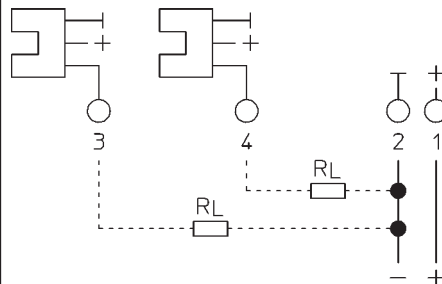
IP67
-25 ... +70° C
0.5 kV
0.08 mm²

Pin Connection:

1 contact



2 contacts



The pin connection of our 2-wire version is compatible with those of instruments with mechanical limit switch contact assemblies. Therefore, these contacts can be replaced easily by electronic limit-switch contact assemblies.

Remark:

For PNP limit switch assemblies the switched output is a connection to \oplus .

The working resistance (R_L) has to be selected in the way that not to exceed the max. switching current (100 mA)!