

ELECTRICAL CONTACTS

MAGNETIC SNAP-ACTION CONTACT TYPE

ECM series



APPLICATIONS

The electrical contacts are installed inside the housing of pressure gauges or thermometers and intended to make or break an electric control circuit to the position of the pointer on the instruments.

DISCRIPTIONS

The mechanical magnetic snap-action contact is a universal contact for almost all operating conditions. It functions as follows: Its contact arm is driven by the pointer of the measuring instrument. On reaching the configured set point, the contact arm is attracted by a permanent magnet and thus jumps to the carrier arm. The permanent magnet also increases the contact pressure and protects the contacts from the effects of arcing during the switching operations. The magnetic snap-action contact is a passive, potential-free alarm contact, which needs no external power for operation. It is neither suitable for operation in hazardous areas nor for switching reliability reasons, for applications with low electrical loads (e.g. PLC). For measuring instruments with liquid filling, we recommend the use of a contact protection relay, in order to ensure a defined load.

SPECIFICATIONS

Instruments	Pressure gauges with dial Ø3", Ø4" and Ø6" (111 series pressure gauge is the commonest application) Thermometers with dial Ø3" ~ Ø6" (visual type contact only)
Position of contact block	VC ; VJ ; VT type — the contact block is mounted onto the dial HJ type — the contact block is mounted behind the dial (HJ type only available for 111 series pressure gauges Ø4" & Ø6")
Number of contacts	Single contact — normally open ; normally closed Double contacts — normally open and closed ; normally open x 2 ; normally closed x 2
Lens	VC ; VJ ; VT type — Acrylic lens, with adjustment knob HJ type — Safety glass lens, with adjustment knob
Wiring styles	VC type — cable gland VJ ; HJ type — terminal box VT type — binding post standard, terminal box or cable gland available
Filling (option)	Insulation oil (only available for 111 series pressure gauges with HJ type contacts)

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INSTALLATIONS OF CONTACTS

Model : VC
Visual contact
Cable gland
Dial Size: Ø3" Ø4" Ø6"



Model : VC1
Visual contact
Removable Cable gland
Dial Size: Ø4"



Model : VJ
Visual contact
Terminal box
Dial Size: Ø4" Ø6"



Model : HJ
Contacts behind dial
Terminal box
Dial Size: Ø4" / Ø6"



Model : VT
for Thermometer
Binding post
Dial Size: Ø4" / Ø6"



CONTACT RATINGS

Maximum contact rating with resistive load	Model: VC / VC1 / VJ / VT
	Dry gauges
Maximum voltage	250 V
Maximum current	0.6 A
Continuous load	> 0.3 A
maximum load	30W / 50VA

Maximum contact rating with resistive load	Model: HJ
	Dry or Liquid filled gauges
Maximum voltage	AC380V / DC220V
Maximum current	1.0 A
Continuous load	> 0.6 A
maximum load	30VA

MINIMUM RANGES OF PRRESSURE GAUGE

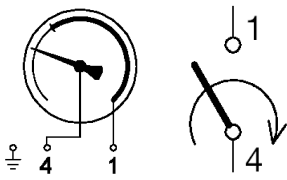
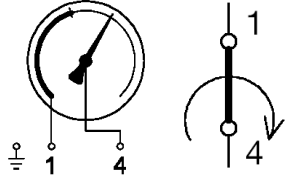
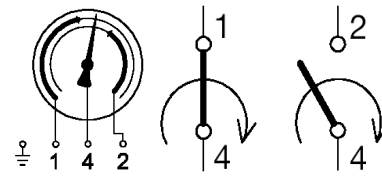
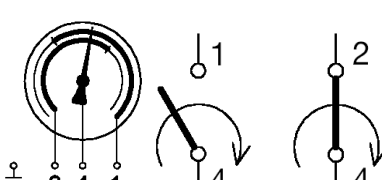
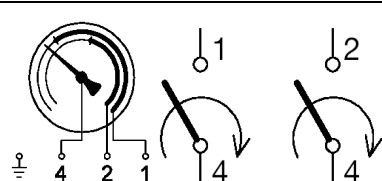
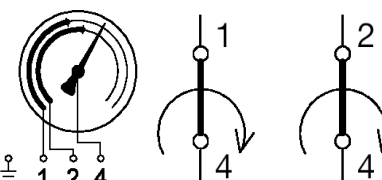
Magnetic snap-action contact (ECM series)	
1 contact	2 contacts
1 bar / 15 psi	2 bar / 30 psi

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THE FUNCTIONS OF CONTACTS

Wiring Scheme	Description	Model
Single Contact		
	Contact makes when the instruments' pointer reaches the set point (NO – normally open)	1a
	Contact breaks when the instruments' pointer reaches the set point (NC – normally closed)	1b
Double Contacts		
	1st contact breaks 2nd contact makes when the instruments' pointer reaches the set points (NC + NO– normally closed and open)	1a1b
	1st contact makes 2nd contact breaks when the instruments' pointer reaches the set points (NO + NC– normally open and closed)	1b1a
	1 st and 2 nd contacts make when the instruments' pointer reaches the set point (NO – normally open x 2)	2a
	1 st and 2 nd contacts break when the instruments' pointer reaches the set point (NC – normally closed x 2)	2b

HOW TO ORDER

Model No. of
pressure gauge or
thermometer

+

ECM -

1a1b

-

VJ

Function

1a

2a

1b

2b

1a1b

1b1a

ref. the above scheme

Wiring

VC

Cable gland

VC1

Removable Cable gland

VJ

Terminal box

HJ

Contacts behind dial

VT

For Thermometer