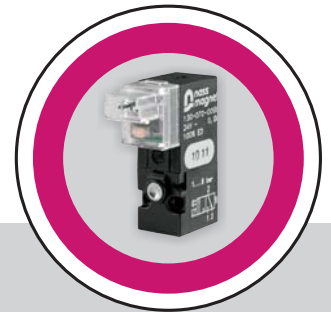
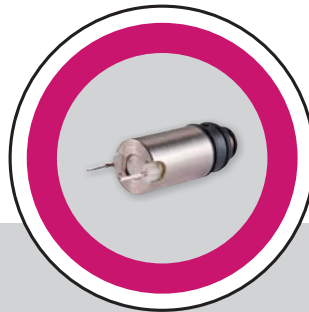
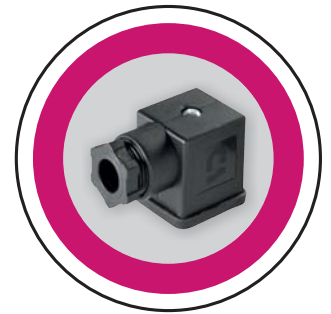
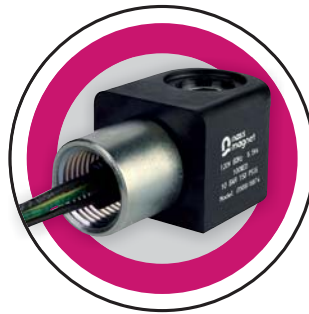


Field Attachable Valve Connectors
Molded Valve Connectors
Pneumatic Flow Controls
PO Check Valves
Miniature Pneumatic Valves
Pneumatic Valve Systems
Solenoids
Hazardous Location Solenoids



Key Model Catalog

INNOVATION BY
NASS CONTROLS



Modular and Compact Electromagnetic Components

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CONNECTORS

Standard Field Attachable

Most common, low cost way of electrically attaching to a solenoid valve or other electronic industrial device. Allows flexibility in choosing the cable style, size and length. LED, LED/surge protection, rectified, and other circuits are available. nass controls can install cables per the customers' requirements.



Molded with Cable

Molded connectors with cables are the easiest and fastest way to connect to the solenoid valve or other electronic industrial device. nass controls molded connectors have the gasket integrated into the connector head eliminating the need for the flat or profile separate gasket. LED, LED/surge protection, and other circuits are available.

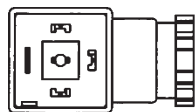


Specialty Connectors

Connectors with rectified, dual colored LED, position changeover indication for pressure switches, and other circuits are available. Energy saver using pulse width modulation (PWM) technology and low cost timer connectors are available.



Form A ISO



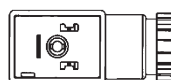
Pages:
4-11

Industrial Type B



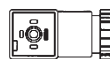
Pages:
12-15

Form B ISO



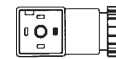
Pages:
16-17

Form C



Pages:
18-21

Micro Type C



Pages:
22- 25

Note: We reserve the right to make product changes without notice.
For use other than general industrial pneumatics, please consult factory.

CECC/EN 175301-803 FORM A ISO 4400/DIN 43 650 A

Features:

- Ground in 3, 6, 9, or 12 h position
- NBR profile or flat gasket
- 2 + and 3 + ground connections

Options:

- cCSAus rated
- Silicone gasket
- Stainless steel center fixing screw
- Black, gray, translucent housings
- Single packed with private label option
- Custom wired

Applications:

- Hydraulic and pneumatic valves, pressure switches

Materials:

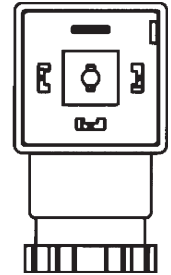
Contacts	CuZn, Cu/Sn- plated
Terminal block	PA6 + 30 % GF, black
Housing	PA6 + 30 % GF; PA6 (translucent)
Screws	Steel 37, zinc- plated
Gasket	Nitrile LABS- free, profile or flat

General Data, Without Circuit:

Operating voltage	UC _{max} 250 V	
Max. operating current	10 A	
Contact resistance	≤ 4 mOhm	
Cable diameter	6-8 mm and 8- 10 mm	
Wire cross section	max. 1.5 mm ²	
Protection class IEC 60 529	IP 65	
Ambient temp.	- 25° C to + 80° C	
Operating temp.	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C	
Flammability, UL	94 HB Standard; 94 V1 on request	
Torque	strain relief nut max.	1.8 Nm ø 0.2 Nm
	center fixing screw	max. 0.4 Nm ø 0.2 Nm
	contact screw	max. 0.2 Nm ø 0.2 Nm

General Data, With Circuit:

Max. operating current	1.5 A	
Power consumption	max. 5 mA	
Contact resistance	≤ 4 mOhm	
Polarity protection	circuits 1, 3, 5 yes; circuits 2, 4 no	
Cable diameter	6-8 mm and 8- 10 mm	
Wire cross section	max. 1.5 mm ²	
Protection class IEC 60 529	IP 65	
Ambient temp.	- 25° C to + 80° C (PA6 + 30 % GF); - 25° C to + 60° C (PA6)	
Operating temp.	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C	
Flammability, UL	94 HB Standard; 94 V1 on request	
Drop- off delay	circuit 1 = none; 2, 3, and 4 = approx. 30 ms; 5 = approx. 3 ms	
Torque	strain relief nut	max. 1.8 Nm ø 0.2 Nm
	center fixing screw	max. 0.4 Nm ø 0.2 Nm
	contact screw	max. 0.2 Nm ø 0.2 Nm



Ground shown in 12 h position

Key Models – Field Attachable ➔ CECC/EN 175301-803 Form A ISO 4400/DIN 43 650 A

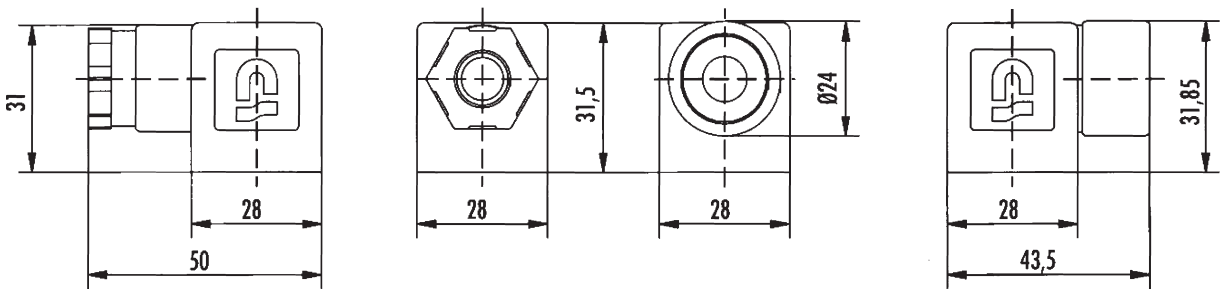
No Circuit

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	6-8 mm cable	0-250 V	611-201-0019	611-201-0034
Gray	6-8 mm cable	0-250 V	611-201-0086	consult factory
Black	8- 10 mm cable	0-250 V	611-201-0042	consult factory
Gray	8- 10 mm cable	0-250 V	611-201-0088	consult factory
Black	½ inch conduit	0-250 V	611-201-0076	611-201-0080
Black, cCSAus	6-8 mm cable	0-250 V	611-201-0029	consult factory
Black, cCSAus	8- 10 mm cable	0-250 V	611-201-0052	consult factory
Black, cCSAus	½ inch conduit	0-250 V	611-201-0077	consult factory

No Circuit

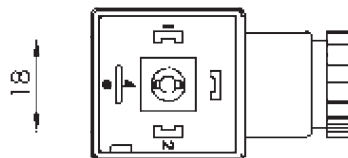
3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	6-8 mm cable	0-250 V	611-201-0225	consult factory
Gray	6-8 mm cable	0-250 V	611-201-0261	consult factory
Black	8- 10 mm cable	0-250 V	611-201-0234	611-201-0240
Gray	8- 10 mm cable	0-250 V	611-201-0263	consult factory
Black	½ inch conduit	0-250 V	611-201-0256	611-201-0260
Black, cCSAus	½ inch conduit	0-250 V	611-201-0258	consult factory

Dimensions in mm:



strain relief

½ inch NPT conduit



Key Models – Field Attachable ➔ CECC/EN 175301-803 Form A ISO 4400/DIN 43 650 A

LED Circuit # 1 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	12 V	611-202-0089	consult factory
Transparent	8- 10 mm cable	12 V	611-201-0187	consult factory
Transparent	6-8 mm cable	24 V	611-201-0129	611-201-0161
Transparent	8- 10 mm cable	24 V	611-201-0188	consult factory
Transparent	6-8 mm cable	110 V	611-201-0130	611-201-0163
Trans., cCSAus	6-8 mm cable	110 V	611-201-0127	consult factory
Transparent	8- 10 mm cable	110 V	611-201-0189	consult factory
Transparent	6-8 mm cable	230 V	611-201-0131	611-201-0164
Transparent	8- 10 mm cable	230 V	611-201-0190	consult factory

LED + Diode Circuit # 2 (DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	24 V	611-201-0134	611-201-0165
Transparent	8- 10 mm cable	24 V	611-201-0191	consult factory

LED + VDR Circuit # 3 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	12 V	611-201-0135	consult factory
Transparent	6-8 mm cable	24 V	611-201-0136	611-201-0166
Transparent	8- 10 mm cable	24 V	611-201-0192	consult factory
Transparent	6-8 mm cable	110 V	611-201-0137	611-201-0167
Trans., cCSAus	6-8 mm cable	110 V	611-201-0128	consult factory
Transparent	8- 10 mm cable	110 V	611-201-0193	consult factory
Transparent	6-8 mm cable	230 V	611-201-0138	611-201-0168

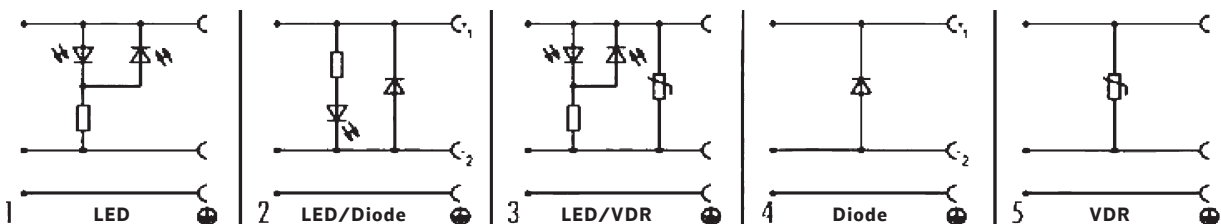
Diode Circuit # 4 (DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	12-230 V	611-201-0020	consult factory
Transparent	8- 10 mm cable	12-230 V	611-201-0043	consult factory

VDR Circuit #5 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	24 V	611-201-0021	consult factory
Transparent	8- 10 mm cable	24 V	611-201-0044	consult factory

Note: Other circuit and voltage options available. Circuits available in ½ inch NPT conduit housing style.



CECC/EN 175301-803 FORM A ISO 4400/DIN 43 650 A

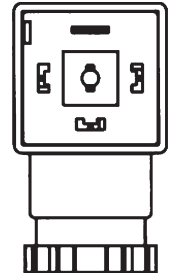
Specialty Circuits

Features:

- Ground in 3, 6, 9, or 12 h position
- NBR profile or flat gasket
- 2 + and 3 + ground connections

Options:

- cCSAus rated
- Silicone gasket
- Stainless steel center fixing screw
- Black, gray, translucent housings
- Single packed with private label option
- Custom wired



Ground shown in 12 h position

Applications:

- Hydraulic and pneumatic valves, pressure switches

Key Models – Field Attachable

Rectifier + VDR Circuit # 8 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	6-8 mm cable	0-230 V	611-201-1147	consult factory

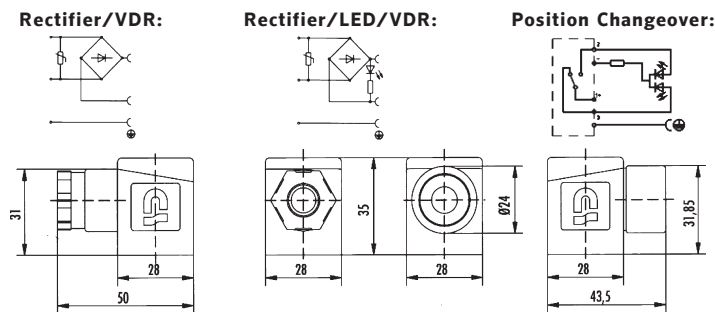
Rectifier + LED + Circuit # 9 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black/clear cap	6-8 mm cable	24 V	611-201-0303	consult factory
Black/clear cap	8- 10 mm cable	24 V	611-201-0318	consult factory
Black/clear cap	6-8 mm cable	110 V	611-201-0919	consult factory

Position Changeover Circuit # 15 (for Pressure Switches) (AC/DC)

3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black/clear cap	6-8 mm cable	24 V	611-201-0374	611-201-0829
Black/clear cap	6-8 mm cable	110 V	611-201-0375	consult factory

Note: Position change over connector has a dual colored LED to indicate the position of the pressure switch. It changes color when the switch changes positions.



Dimensions in mm:

strain relief

½ inch NPT conduit

CECC/EN 175301-803 FORM A ISO 4400/DIN 43 650 A

Molded Connector With Cable

Features:

- Ground in 6 and 12 h positions
- IP 67
- Integrated gasket
- Identification plate

Options:

- Stainless steel center fixing screw
- Single packed with private label option



Materials:

Contacts.....	CuZn, Cu/SN-plated
Terminal block.....	PA6 + 30 % GF, black
Housing.....	PUR Elastomer
Screws	Steel 37, zinc-plated
Gasket.....	Integrated - no external gasket required
Marking plate.....	White

General Data, Without Circuit:

Operating voltage	UC _{max} 250 V
Max. operating current	10 A
Contact resistance.....	≤ 4 mOhm
Cable.....	H05VV-F3G 0.75 mm ²
Wire colors	1 = brown, 2 = blue, ground = yellow/green
Ground position	6/12 h
Protection class IEC 60 529	IP 67
Ambient temp.	- 25° C to + 90° C
Torque.....	center fixing screw max. 0.4 Nm œ 0.1 Nm

General Data, With Circuit:

Max. operating current	1.1 A
Power consumption	max. 5 mA
Contact resistance.....	≤ 4 mOhm
Polarity protection	yes, circuits 1 and 3
Cable.....	H05VV-F3G 0.75 mm ²
Wire colors	1 = brown, 2 = blue, ground = yellow/green
Ground position	6/12 h
Protection class IEC 60 529	IP 67
Ambient temp.	- 25° C to + 90° C
Drop-off delay.....	1 = none; 3 approx. 30 ms
Torque.....	center fixing screw: max. 0.4 Nm œ 0.1 Nm

Key Models – Molded With Cable ➔ CECC/EN 175301-803 Form A ISO 4400/DIN 43 650 A

No Circuit

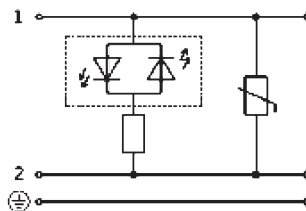
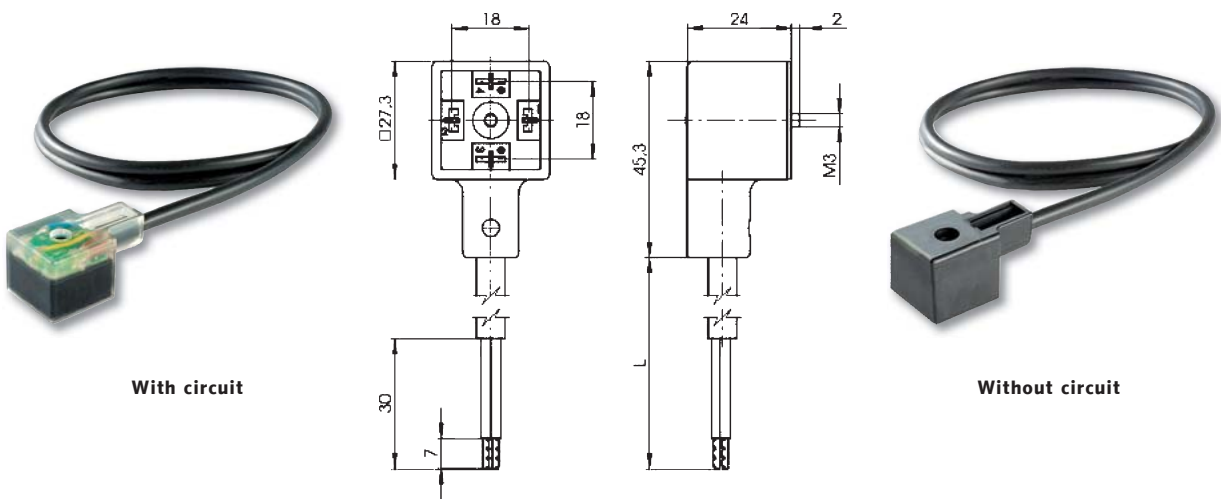
2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Black	1- meter	0-250 V	611-202-0334
Black	2- meter	0-250 V	611-202-0335
Black	3- meter	0-250 V	611-202-0271

LED + VDR Circuit # 3 (AC/DC)

2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Transparent	2- meter	24 V	611-202-0336
Transparent	3- meter	24 V	611-202-0273
Transparent	2- meter	110 V	611-202-0337

Note: Other circuit options, voltages and cable lengths available.

Dimensions in mm:



LED/VDR

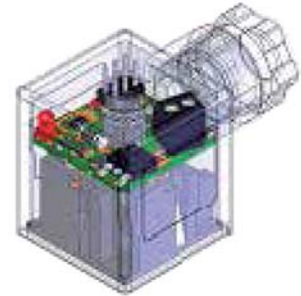
CECC/EN 175301-803 FORM A ISO 4400/DIN 43 650 A

Energy Saver Circuit

Pulse Width Modulation (PWM) DC Circuit

Features:

- Provides energy savings and extends coil life
- Reduces coil's heat rise temperature
- DC voltage only
- Adjustable by jumpers or factory pre set
- Circuit includes a protective diode



Applications:

- Hydraulic solenoid valves
- Pneumatic solenoid valves

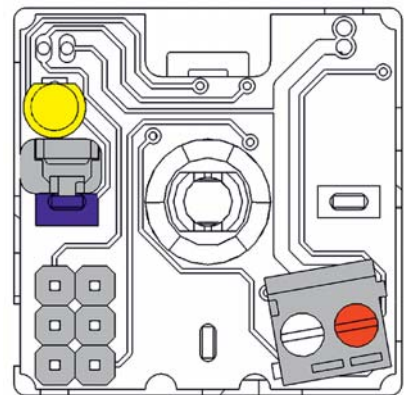
2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	6-8 mm cable	24 V	consult factory	611-201-0082

Technical Data

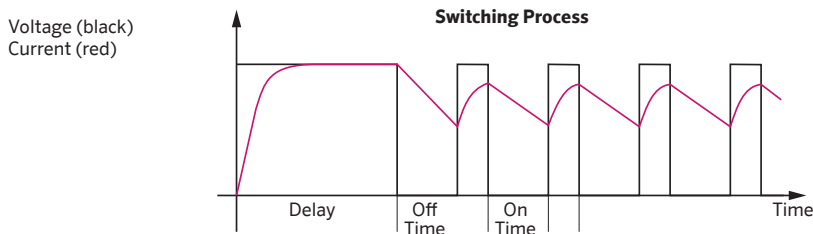
Operatin Voltage..... V DC = 24 V DC
 Maximum Current..... $I_{max} = 1$ Amp
 Delay..... ca. 175 ms
 Switching Frequency..... 3.1 KHz @ 24 V DC
 Pulse- Pulse Ratio of PWM Signal..... 8 fix Variation
 Polarity Sensitive Yes
 Over Voltage Protection..... No

Set Up

The installation of jumper (s) make it possible to achieve the desired level of energy savings. If no jumpers are used, the greatest amount of energy savings is achieved (PWM signal = 1x On, 8x Off). If all three jumpers are installed, the least amount of energy savings is achieved (PWM Signal = 8x On, 1x Off).



Program	1	2	3	4	5	6	7	8
Jumper 1	0	1	0	1	0	1	0	1
Jumper 2	0	0	1	1	0	0	1	1
Jumper 3	0	0	0	0	1	1	1	1
Pulse Ratio	1:8	2:7	3:6	4:5	5:4	6:3	7:2	8:1
U Reduction	11 %	22 %	33 %	44 %	56 %	67 %	78 %	89 %



CECC/EN 175301-803 FORM A ISO 4400/DIN 43 650 A

Low Cost Timing Connectors

Features:

- DC timers, 12-24V
- DC timers, max. output current: 1 Amp
- DC timers, max. current consumption: 4 mA (no load)
- AC timers, 100-240V
- AC timers, max. output current: 0.4 Amp
- AC timers, max. current consumption: 2 mA (no load)
- Pre-programmed time ranges (T_{ON} , T_{OFF} , T_{DELAY}), 0.1 sec. to 250 hours (programmed by factory)
- Timing accuracy: $\pm 5\%$
- Built in surge protection
- Pre wired option
- Ambient temperature range: - 25° C to + 60° C

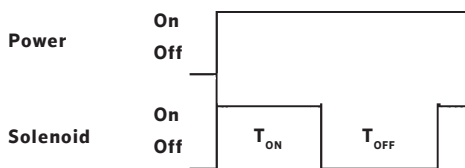
Applications:

- Repetitive circuits

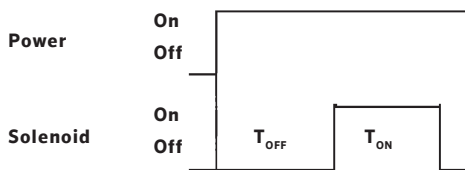
Note: Contact nass controls for ordering numbers.

Timing types (programmed by the factory):

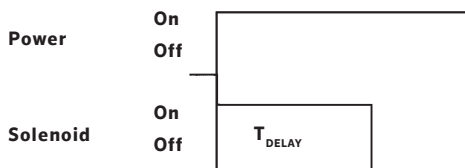
1. Cycle timer, start with ON state



2. Cycle timer, start with OFF state



3. Internal delay



AC Timer



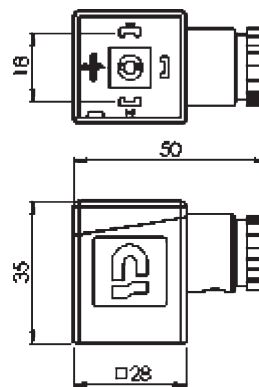
DC Timer



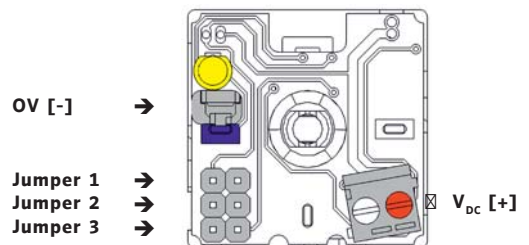
Pre Wired

Dimensional data:

Form A (ISO 4400)



DC Connection:



INDUSTRIAL TYPE B

Features:

- Ground in 6 or 12 h position
- NBR profile or flat gasket

Options:

- cCSAus rated
- Silicone gasket
- Stainless steel center fixing screw
- Black and translucent housings
- Single packed with private label option
- Custom wired

Applications:

- Pneumatic solenoid valves

Materials:

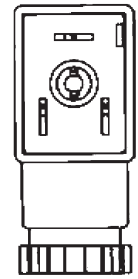
Contacts	CuZn, Cu/SN-plated
Terminal block	PA6 + 30 % GF, black
Housing	PA6 + 30 % GF; PA6 (translucent)
Screws	Steel 37, zinc-plated
Gasket	Nitrile LABS-free, profile or flat

General Data, Without Circuit:

Operating voltage	$U_{C_{max}}$ 250 V
Max. operating current	10 A
Contact resistance	≤ 4 mOhm
Cable diameter	6-8 mm and 8- 10 mm
Wire cross section	max. 1.5 mm ²
Protection class IEC 60 529	IP 65
Ambient temp.	- 25° C to + 80° C
Operating temp.	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C
Flammability, UL	94 HB Standard; 94 V1 on request
Torque	strain relief nut max. 1.8 Nm \oslash 0.2 Nm
center fixing screw	max. 0.4 Nm \oslash 0.2 Nm
contact screw	max. 0.2 Nm \oslash 0.2 Nm

General Data, With Circuit:

Max. operating current	1.5 A
Power consumption	max. 5 mA
Contact resistance	≤ 4 mOhm
Polarity protection	circuits 1, 3, 5 yes; circuits 2, 4 no
Cable diameter	6-8 mm and 8- 10 mm
Wire cross section	max. 1.5 mm ²
Protection class IEC 60 529	IP 65
Ambient temp.	- 25° C to + 80° C (PA6 + 30 % GF); - 25° C to + 60° C (PA6)
Operating temp.	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C
Flammability, UL	94 HB Standard; 94 V1 on request
Drop-off delay	circuit 1 = none; 2, 3, and 4 = approx. 30 ms; 5 = approx. 3 ms
Torque	strain relief nut max. 1.8 Nm \oslash 0.2 Nm
	center fixing screw max. 0.4 Nm \oslash 0.2 Nm
	contact screw max. 0.2 Nm \oslash 0.2 Nm



Ground shown in 12 h position

Key Models – Field Attachable ↔ Industrial Type B

No Circuit

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	6-8 mm cable	0-250 V	612-201-0019	612-201-0032
Black	½ inch conduit	0-250 V	612-201-0051	612-201-0055
Black, cCSAus	6-8 mm cable	0-250 V	612-201-0028	612-201-0047
Black, cCSAus	½ inch conduit	0-250 V	612-201-0053	612-201-0061

LED Circuit # 1 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	12 V	612-201-0089	612-201-0113
Transparent	6-8 mm cable	24 V	612-201-0090	612-201-0114
Transparent	6-8 mm cable	110 V	612-201-0091	612-201-0116
Transparent	6-8 mm cable	230 V	612-201-0092	612-201-0117

LED + Diode Circuit # 2 (DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	24 V	612-201-0084	612-201-0118

LED + VDR Circuit # 3 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	24 V	612-201-0094	612-201-0119
Transparent	6-8 mm cable	110 V	612-201-0095	612-201-0121
Transparent	6-8 mm cable	230 V	612-201-0096	612-201-0122

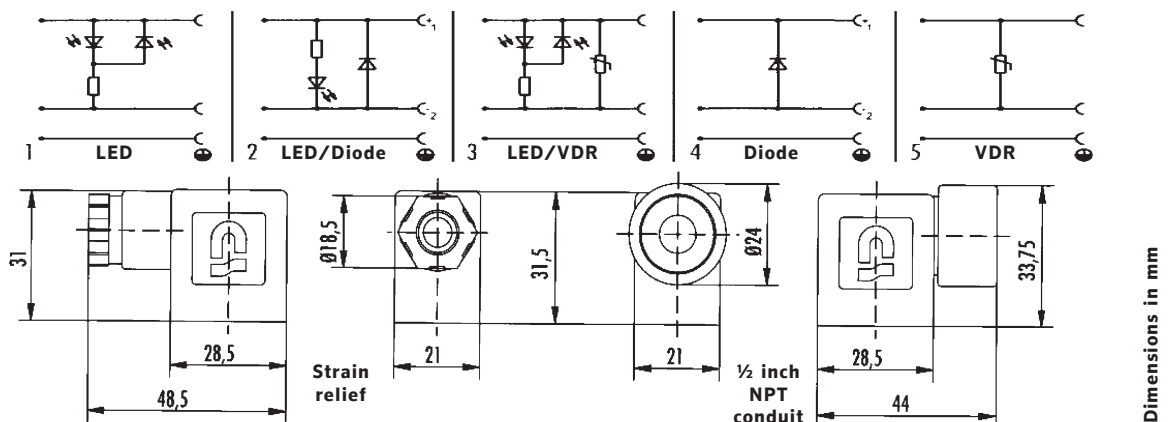
Diode Circuit # 4 (DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	6-8 mm cable	12-230 V	612-201-0020	612-201-0034

VDR Circuit #5 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	6-8 mm cable	12 V	612-201-0039	consult factory
Black	6-8 mm cable	24 V	612-201-0021	consult factory
Black	6-8 mm cable	110 V	consult factory	612-201-0035
Black	6-8 mm cable	230 V	consult factory	612-201-0036

Note: Other circuit and voltage options available. Circuits available in ½ inch NPT conduit housing style.



INDUSTRIAL TYPE B

Molded Connector With Cable

Features:

- Ground in 12 h position
- IP 67
- Integrated gasket
- Identification plate

Options:

- Stainless steel center fixing screw
- Individually packaged

Applications:

- Pneumatic solenoid valves



Materials:

Contacts.....	CuZn, Cu/SN-plated
Terminal block.....	PA6 + 30 % GF, black
Housing.....	PUR Elastomer
Screws.....	Steel 37, zinc-plated
Gasket.....	Integrated - no external gasket required
Marking plate.....	White

General Data, Without Circuit:

Operating voltage.....	UC _{max} 250 V
Max. operating current.....	10 A
Contact resistance.....	≤ 4 mOhm
Cable.....	H05VV-F3G 0.75 mm ²
Wire colors.....	1 = brown, 2 = blue, ground = yellow/green
Ground position.....	6/12 h
Protection class IEC 60 529.....	IP 67
Ambient temp.....	- 25° C to + 90° C
Torque.....	center fixing screw: max. 0.4 Nm ÷ 0.1 Nm

General Data, With Circuit:

Max. operating current.....	1.1 A
Power consumption.....	max. 5 mA
Contact resistance.....	≤ 4 mOhm
Polarity protection.....	yes, circuits 1 and 3
Cable.....	H05VV-F3G 0.75 mm ²
Wire colors.....	1 = brown, 2 = blue, ground = yellow/green
Ground position.....	6/12 h
Protection class IEC 60 529.....	IP 67
Ambient temp.....	- 25° C to + 90° C
Drop-off delay.....	1 = none; 3 approx. 30 ms
Torque.....	center fixing screw: max. 0.4 Nm ÷ 0.1 Nm

Key Models – Field Attachable ↔ Industrial Type B

No Circuit

2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Black	1- meter	0-250 V	612-202-0186
Black	1.5 meter	0-250 V	612-202-0185
Black	2- meter	0-250 V	612-202-0187

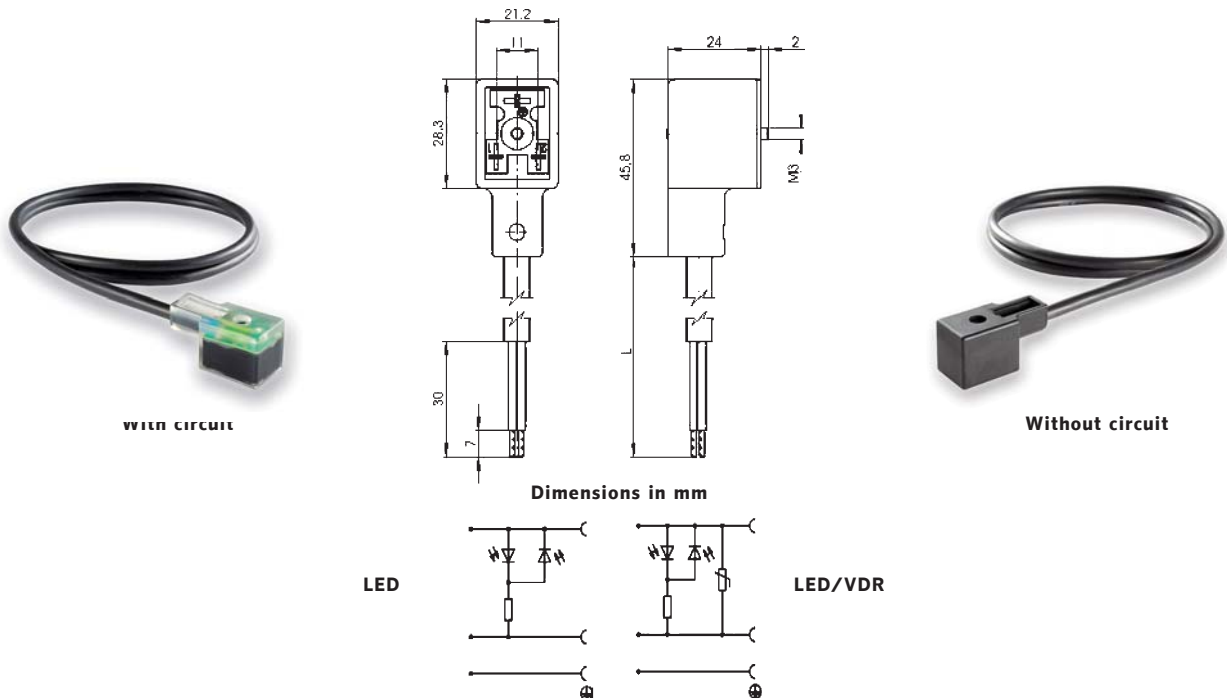
LED Circuit # 1 (AC/DC)

2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Transparent	1- meter	24 V	612-202-0190
Transparent	1- meter	110 V	612-202-0191

LED + VDR Circuit # 3 (AC/DC)

2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Transparent	1- meter	24 V	612-202-0192
Transparent	2- meter	24 V	612-202-0193
Transparent	3- meter	24 V	612-202-0137
Transparent	2- meter	110 V	612-202-0194

Note: Other circuit options, voltages and cable lengths available.



CECC/EN 175301-803 FORM B ISO 6952

Features:

- Ground in 6 or 12 h position
- NBR profile or flat gasket

Options:

- cCSAus rated
- Silicone gasket
- Stainless steel center fixing screw
- Black and translucent housings
- Single packed with private label option
- Custom wired

Applications:

- Pneumatic solenoid valves

Materials:

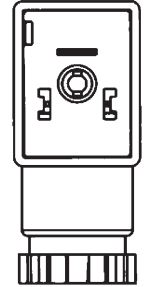
Contacts.....	CuZn, Cu/Sn-plated
Terminal block.....	PA6 + 30 % GF, black
Housing.....	PA6 + 30 % GF; PA6 (translucent)
Screws	Steel 37, zinc-plated
Gasket.....	Nitrile LABS-free, profile or flat

General Data, Without Circuit:

Operating voltage	UC _{max} 250 V
Max. operating current	10 A
Contact resistance.....	≤ 4 mOhm
Cable diameter.....	6-8 mm and 8- 10 mm
Wire cross section	max. 1.5 mm ²
Protection class IEC 60 529	IP 65
Ambient temp.	- 25° C to + 80° C
Operating temp.....	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C
Flammability, UL	94 HB Standard; 94 V1 on request
Torque.....	strain relief nut max. 1.8 Nm œ 0.2 Nm
center fixing screw	max. 0.4 Nm œ 0.2 Nm
contact screw	max. 0.2 Nm œ 0.2 Nm

General Data, With Circuit:

Max. operating current	1.5 A
Power consumption	max. 5 mA
Contact resistance.....	≤ 4 mOhm
Polarity protection	circuits 1, 3, 5 yes; circuits 2, 4 no
Cable diameter.....	6-8 mm and 8- 10 mm
Wire cross section	max. 1.5 mm ²
Protection class IEC 60 529	IP 65
Ambient temp.	- 25° C to + 80° C (PA6 + 30 % GF); - 25° C to + 60° C (PA6)
Operating temp.....	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C
Flammability, UL	94 HB Standard; 94 V1 on request
Drop-off delay.....	circuit 1 = none; 2, 3, and 4 = approx. 30 ms; 5 = approx. 3 ms
Torque.....	strain relief nut max. 1.8 Nm œ 0.2 Nm
center fixing screw	max. 0.4 Nm œ 0.2 Nm
contact screw	max. 0.2 Nm œ 0.2 Nm



Ground shown
in 12 h position

Key Models – Field Attachable ➔ CECC/EN 175301-803 Form B ISO 6952

No Circuit

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	6-8 mm cable	0-250 V	613-201-0002	613-201-0004
Black	½ inch conduit	0-250 V	613-201-0009	613-201-0010

LED Circuit # 1 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	24 V	consult factory	613-201-0021
Transparent	6-8 mm cable	110 V	613-201-0065	consult factory

LED + Diode Circuit # 2 (DC)

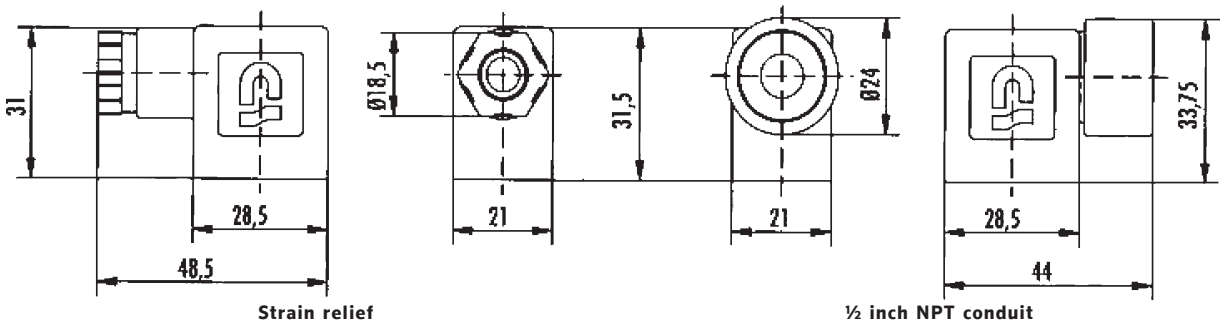
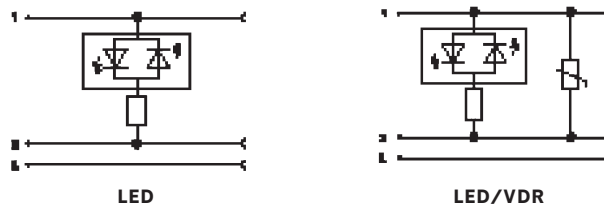
2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	24 V	612-201-0084	612-201-0118

LED + VDR Circuit # 3 (AC/DC)

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	6-8 mm cable	24 V	613-201-0016	613-201-0022
Transparent	6-8 mm cable	110 V	613-201-0017	consult factory
Transparent	6-8 mm cable	230 V	613-201-0018	consult factory

Note: Other circuit and voltage options available.

Dimensions in mm:



CECC/EN 175301-803 FORM C ISO 15217/DIN 43 650 C

Features:

- Ground in 3, 6, 9, or 12 h position
- NBR profile or flat gasket
- 2 + and 3 + ground connections

Options:

- Silicone gasket
- Stainless steel center fixing screw
- Black and translucent housings
- Single packed with private label option
- Custom wired

Applications:

- Pneumatic valves, transducers

Materials:

Contacts	CuZn, Cu/SN-plated
Terminal block	PA6 + 30 % GF, black
Housing	PA6 + 30 % GF, PA6 (translucent)
Screws	Steel 37, zinc-plated
Gasket	Nitrile LABS-free, profile or flat

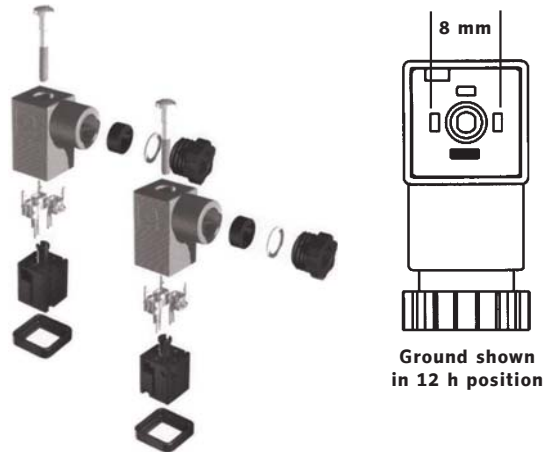
General Data, Without Circuit:

Operating voltage	UC _{max} 250 V	
Max. operating current	6 A	
Contact resistance	≤ 4 mOhm	
Cable diameter	5-6.5 mm	
Wire cross section	max. 0.75 mm ²	
Protection class IEC 60 529	IP 65	
Ambient temp.	- 25° C to + 80° C	
Operating temp.	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C	
Flammability, UL	94 HB Standard; 94 V1 on request	
Torque	strain relief nut	max. 1.6 Nm ø 0.2 Nm
	center fixing screw	max. 0.4 Nm ø 0.2 Nm
	contact screw	max. 0.2 Nm ø 0.2 Nm

General Data, With Circuit:

Max. operating current	1 A	
Contact resistance	≤ 4 mOhm	
Polarity protection	circuits 1, 3, and 5 yes; circuits 2 and 4 no	
Cable diameter	6-8 mm and 8- 10 mm	
Wire cross section	max. 1.5 mm ²	
Protection class IEC 60 529	IP 65	
Ambient temp.	- 25° C to + 80° C (PA6 + 30 % GF); - 25° C to + 60° C (PA6)	
Operating temp.	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C	
Flammability, UL	94 HB Standard; 94 V1 on request	
Drop-off delay	1 = none, 2, 3, 4, and 5 approx. 30 ms	
Torque	strain relief nut	max. 1.6 Nm ø 0.2 Nm
	center fixing screw	max. 0.4 Nm ø 0.2 Nm
	contact screw	max. 0.2 Nm ø 0.2 Nm

Note: Form C center fixing screw: M 2.5 x 27



Ground shown in 12 h position

Key Models – Field Attachable ➔ CECC/EN 175301-803 Form C ISO 15217/DIN 43 650 C

No Circuit

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	4-6 mm cable	0-250 V	615-201-0001	615-201-0002

No Circuit

3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	4-6 mm cable	0-250 V	consult factory	615-201-0011

LED Circuit # 1 (AC/DC)

3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	4-6 mm cable	24 V	615-201-0110	615-201-0122
Transparent	4-6 mm cable	110 V	615-201-0092	615-201-0083

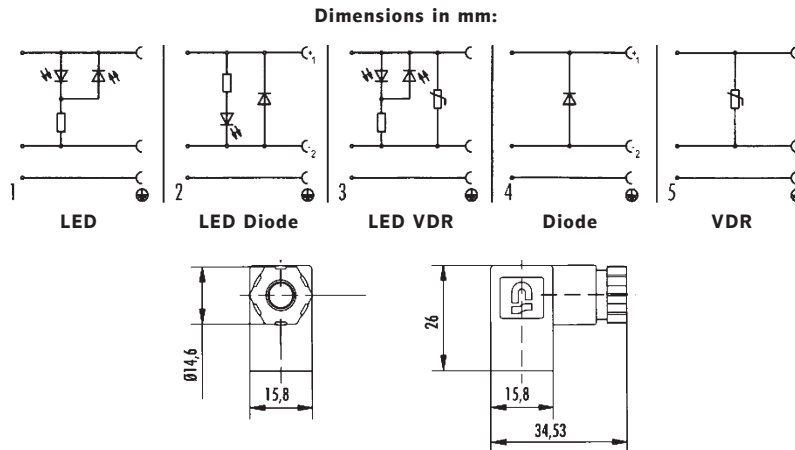
LED + VDR Circuit # 3 (AC/DC)

3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	4-6 mm cable	24 V	consult factory	615-201-0078
Transparent	4-6 mm cable	110 V	consult factory	615-201-0112
Transparent	4-6 mm cable	230 V	consult factory	615-201-0101

VDR Circuit #5 (AC/DC)

3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	4-6 mm cable	24 V	consult factory	615-201-0103

Note: Other circuit and voltage options available.



CECC/EN 175301-803 FORM C ISO 15217/DIN 43 650 C

Molded Connector With Cable

Features:

- Ground in 6 and 12 h positions
- IP 67
- PVC cable
- Integrated gasket

Options:

- PUR cable
- Stainless steel center fixing screw
- Single packed with private label option



Applications:

- Pneumatic valves, transducers

Materials:

Contacts.....	CuZn, Cu/SN-plated
Terminal block.....	PA6 + 30 % GF, black
Housing.....	PUR Elastomer
Screws.....	Steel 37, zinc-plated
Gasket.....	Integrated - no external gasket required

General Data, Without Circuit:

Operating voltage.....	UC _{max} 250 V
Max. operating current.....	6 A
Contact resistance.....	≤ 4 mOhm
Cable.....	H03VVF 0.50 mm ²
Wire colors.....	1 = brown, 2 = blue, ground = yellow/green
Ground position.....	6/12 h
Protection class IEC 60 529.....	IP 67
Ambient temp.....	- 25° C to + 90° C
Torque.....	center fixing screw max. 0.4 Nm œ 0.1 Nm

General Data, With Circuit:

Max. operating current.....	1.5 A
Power consumption.....	max. 5 mA
Contact resistance.....	≤ 4 mOhm
Polarity protection.....	yes, circuits 1 and 3
Cable.....	H03VVF 0.50 mm ²
Wire colors.....	1 = brown, 2 = blue, ground = yellow/green
Ground position.....	6/12 h
Protection class IEC 60 529.....	IP 67
Ambient temp.....	- 25° C to + 90° C
Drop-off delay.....	1 = none; 3 approx. 30 ms
Torque.....	center fixing screw max. 0.4 Nm œ 0.1 Nm

Note: Form C center fixing screw: M 2.5 x 24

Key Models – Molded With Cable → CECC/EN 175301-803 Form C ISO 15217/DIN 43 650 C

No Circuit

2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Black	0.5-meter	0-250 V	615-202-0014
Black	1-meter	0-250 V	615-202-0015
Black	2-meter	0-250 V	615-202-0048
Black	3-meter	0-250 V	615-202-0070

LED Circuit # 1 (AC/DC)

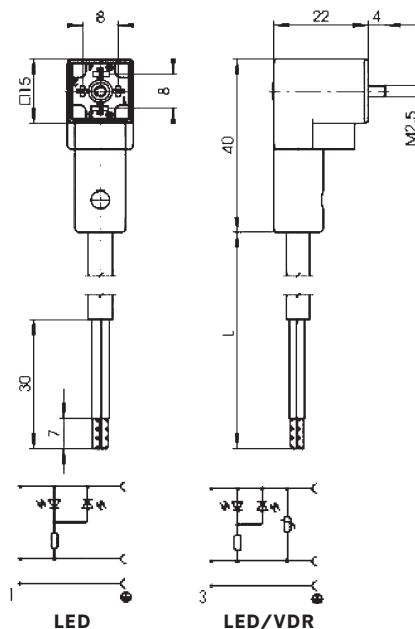
2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Transparent	1- meter	12 V	615-202-0019
Transparent	2- meter	12 V	615-202-0056
Transparent	1- meter	24 V	615-202-0049
Transparent	2- meter	24 V	615-202-0059
Transparent	1- meter	110 V	615-202-0050
Transparent	2- meter	110 V	615-202-0062

LED + VDR Circuit # 3 (AC/DC)

2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Transparent	2- meter	12 V	615-202-0016
Transparent	2- meter	24 V	615-202-0017
Transparent	2- meter	110 V	615-202-0018

Note: Other circuit options, voltages and cable lengths available.

Dimensions in mm:



MICRO TYPE C

Features:

- Ground in 3, 6, 9, or 12 h position
- NBR profile or flat gasket
- 2 + and 3 + ground connections

Options:

- Silicone gasket
- Stainless steel center fixing screw
- Black and translucent housings
- Single packed with private label option
- Custom wired

Applications:

- Pneumatic valves, transducers

Materials:

Contacts	CuZn, Cu/SN-plated
Terminal block	PA6 + 30 % GF, black
Housing	PA6 + 30 % GF, PA6 (translucent)
Screws	Steel 37, zinc-plated
Gasket	Nitrile LABS-free, profile or flat

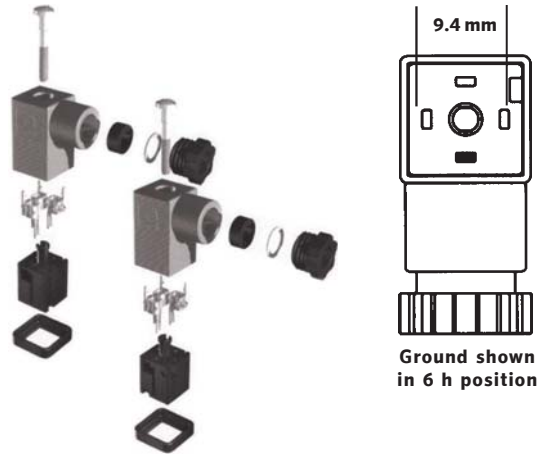
General Data, Without Circuit:

Operating voltage	UC _{max} 250 V	
Max. operating current	6 A	
Contact resistance	≤ 4 mOhm	
Cable diameter	5-6.5 mm	
Wire cross section	max. 0.75 mm ²	
Protection class IEC 60 529	IP 65	
Ambient temp.	- 25° C to + 80° C	
Operating temp.	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C	
Flammability, UL	94 HB Standard; 94 V1 on request	
Torque	strain relief nut	max. 1.6 Nm ø 0.2 Nm
center fixing screw	max. 0.4 Nm ø 0.2 Nm	
contact screw	max. 0.2 Nm ø 0.2 Nm	

General Data, With Circuit:

Max. operating current	1 A	
Contact resistance	≤ 4 mOhm	
Polarity protection	circuits 1, 3, and 5 yes; circuits 2 and 4 no	
Cable diameter	6-8 mm and 8- 10 mm	
Wire cross section	max. 1.5 mm ²	
Protection class IEC 60 529	IP 65	
Ambient temp.	- 25° C to + 80° C (PA6 + 30 % GF); - 25° C to + 60° C (PA6)	
Operating temp.	Nitrile - 40° C to + 90° C/Silicone - 40° C to + 125° C	
Flammability, UL	94 HB Standard; 94 V1 on request	
Drop-off delay	1 = none, 2, 3, 4, and 5 approx. 30 ms	
Torque	strain relief nut	max. 1.6 Nm ø 0.2 Nm
	center fixing screw	max. 0.4 Nm ø 0.2 Nm
	contact screw	max. 0.2 Nm ø 0.2 Nm

Note: Micro Type C center fixing screw: M 3 x 27



Ground shown in 6 h position

Key Models – Field Attachable ➔ Micro Type C

No Circuit

2 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	4-6 mm cable	0-250 V	614-201-0001	614-201-0002

No Circuit

3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Black	4-6 mm cable	0-250 V	614-201-0139	614-201-0046

LED Circuit # 1 (AC/DC)

3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	4-6 mm cable	24 V	614-201-0109	614-201-0034
Transparent	4-6 mm cable	110 V	consult factory	614-201-0035

LED + VDR Circuit # 3 (AC/DC)

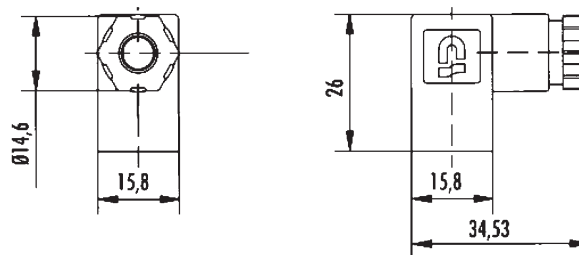
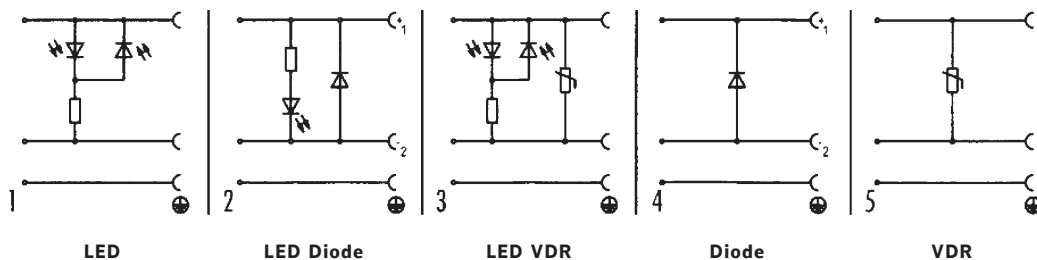
3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	4-6 mm cable	24 V	614-201-0032	614-201-0036
Transparent	4-6 mm cable	110 V	614-201-0033	consult factory

VDR Circuit # 5 (AC/DC)

3 + Ground/Color	Style	Volts	Profile Gasket	Flat Gasket
Transparent	4-6 mm cable	24 V	614-201-0005	consult factory
Transparent	4-6 mm cable	110 V	614-201-0006	consult factory

Note: Other circuit and voltage options available.

Dimensions in mm:



MICRO TYPE C

Molded Connector With Cable

Features:

- Ground in 6 and 12 h positions
- IP 67
- PVC cable
- Integrated gasket

Options:

- PUR cable
- Stainless steel center fixing screw
- Single packed with private label option



Applications:

- Pneumatic valves, transducers

Materials:

Contacts.....	CuZn, Cu/SN-plated
Terminal block.....	PA6 + 30 % GF, black
Housing.....	PUR Elastomer
Screws.....	Steel 37, zinc-plated
Gasket.....	Integrated - no external gasket required

General Data, Without Circuit:

Operating voltage.....	UC _{max} 250 V
Max. operating current.....	6 A
Contact resistance.....	≤ 4 mOhm
Cable.....	H03VVF 0.50 mm ²
Wire colors.....	1 = brown, 2 = blue, ground = yellow/green
Ground position.....	6/12 h
Protection class IEC 60 529.....	IP 67
Ambient temp.....	- 25° C to + 90° C
Torque.....	center fixing screw max. 0.4 Nm ÷ 0.1 Nm

General Data, With Circuit:

Max. operating current.....	1.5 A
Power consumption.....	max. 5 mA
Contact resistance.....	≤ 4 mOhm
Polarity protection.....	yes, circuits 1 and 3
Cable.....	H03VVF 0.50 mm ²
Wire colors.....	1 = brown, 2 = blue, ground = yellow/green
Ground position.....	6/12 h
Protection class IEC 60 529.....	IP 67
Ambient temp.....	- 25° C to + 90° C
Drop-off delay.....	1 = none; 3 approx. 30 ms
Torque.....	center fixing screw max. 0.4 Nm ÷ 0.1 Nm

Note: Micro Type C center fixing screw: M 3 x 24

Key Models – Molded With Cable ↪ Micro Type C

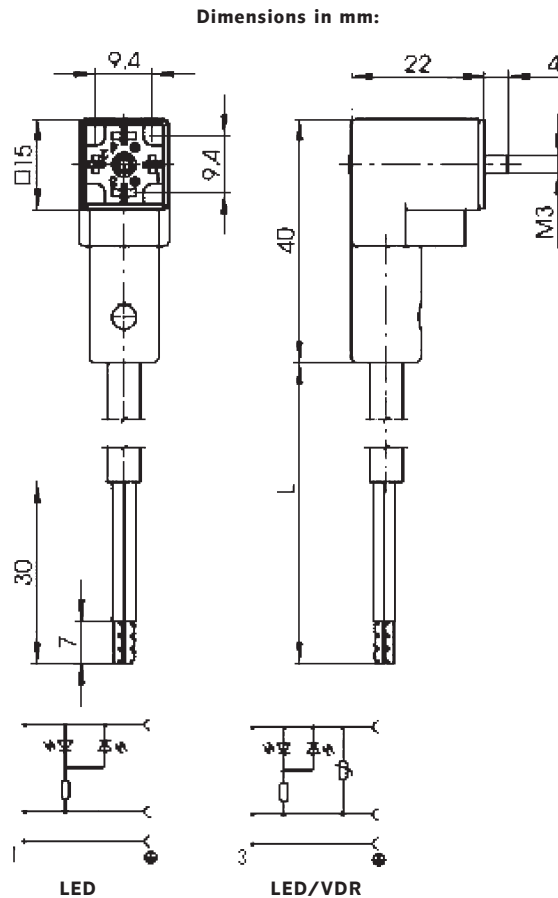
No Circuit

2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Black	2-meter	0-250 V	614-202-0044

LED + VDR Circuit # 3 (AC/DC)

2 + Ground/Color	Cable Length	Volts	Integrated Gasket
Transparent	2-meter	24 V	614-202-0054

Note: Other circuit options, voltages and cable lengths available.



FUNCTION FITTINGS

Right Angle Flow Controls

Right angle flow controls for metering and controlling the speed of air cylinders. Metered out or metered in versions available.

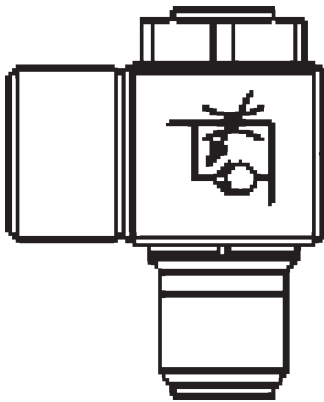
Pilot Operated Check Valves

When pilot pressure is present, the PO check valve allows free flow. When pilot pressure is not present, the PO check valve blocks flow in either direction. Perfect for use with air cylinders and other pneumatic motion devices.

Pressure Regulators

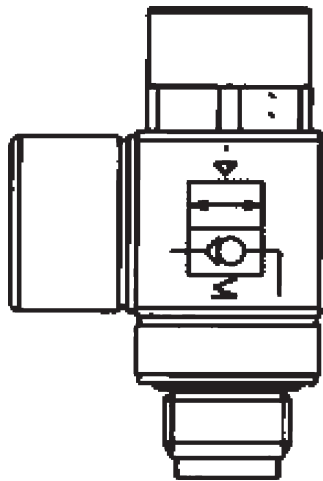
Right angle relieving and non-relieving regulators. Perfect for tabletop pneumatic systems.

Right Angle Flow Controls



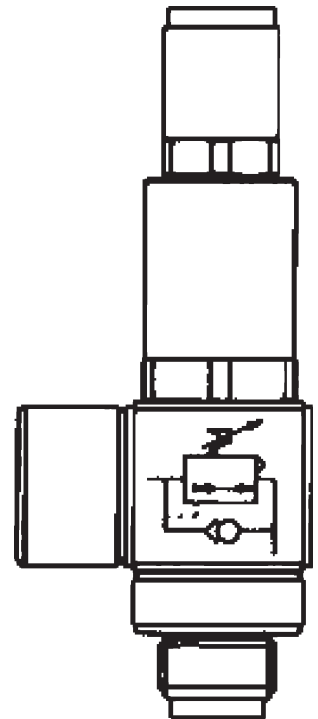
Page: 27

Pilot Operated Check Valves



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Pressure Regulators



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Note: We reserve the right to make product changes without notice.
For use other than general industrial pneumatics, please consult factory.

RIGHT ANGLE FLOW CONTROL VALVES

Features:

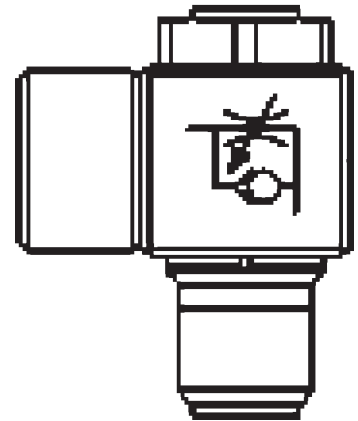
- Metered out or metered in functions
- NPT or G metric threads
- NPT male threads have sealant applied
- Slot or knob adjust
- Threaded banjo or push-to-connect fitting
- Temperature range: - 10° C to + 70° C
- Operating pressure range: 1 bar to 10 bar

Options:

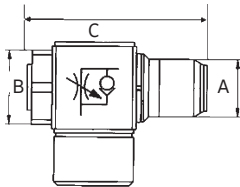
- Printed with valve symbol
- Single packed with private label option

Applications:

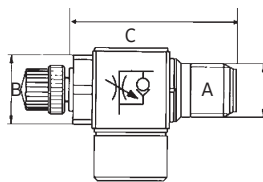
- Pneumatic cylinders



Slot adjust



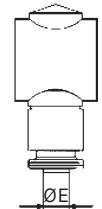
Knob adjust



Threaded banjo



PTC fitting



Slot Adjust – Metered Out

A	B	C	Max Tightening Torque		D	Part Number Threaded Banjo	E	Part Number PTC Fitting
10-32 UNF	SW8	21.0	1.5 Nm	1.1 lbs/ft	10-32 UNF	300-151-0010	5/32"	300-151-0011
1/8 NPTF	SW13	32.0	15 Nm	11.0 lbs/ft	1/8 NPTF	300-151-0043	5/32"	300-151-0046
1/4 NPTF	SW17	41.0	20 Nm	14.7 lbs/ft	1/4 NPTF	300-151-0076	1/4"	300-151-0047
3/8 NPTF	SW22	47.0	30 Nm	22.1 lbs/ft	3/8 NPTF	300-151-0101	3/8"	300-151-0078
1/2 NPTF	SW27	58.0	40 Nm	29.5 lbs/ft	1/2 NPTF	300-151-0114	3/8"	300-151-0079
								300-151-0104
								NA

Knob Adjust – Metered Out

A	B	C	Max Tightening Torque		D	Part Number Threaded Banjo	E	Part Number PTC Fitting
1/8 NPTF	SW13	47.5	15 Nm	11.0 lbs/ft	1/8 NPTF	300-151-0049	5/32"	300-151-0050
1/4 NPTF	SW17	58.0	20 Nm	14.7 lbs/ft	1/4 NPTF	300-151-0081	1/4"	300-151-0051
3/8 NPTF	SW22	66.5	30 Nm	22.1 lbs/ft	3/8 NPTF	300-151-0106	3/8"	300-151-0082
1/2 NPTF	SW27	51.0	40 Nm	29.5 lbs/ft	1/2 NPTF	300-151-0117	NA	300-151-0083
								300-151-0108

Slot Adjust – Metered In

A	B	C	Max Tightening Torque		D	Part Number Threaded Banjo	E	Part Number PTC Fitting
10-32 UNF	SW8	21.0	1.5 Nm	1.1 lbs/ft	10-32 UNF	300-151-0019		NA
1/8 NPTF	SW13	32.0	15 Nm	11.0 lbs/ft	1/8 NPTF	300-151-0064	1/4"	300-151-0065
1/4 NPTF	SW17	41.0	20 Nm	14.7 lbs/ft	1/4 NPTF	300-151-0090	1/4"	300-151-0091

Note: Numbers shown are without printing. Please contact nass controls for units printed with valve symbol and metric G threaded models. Please contact nass controls for Flow Controls flow data charts.

PILOT OPERATED CHECK VALVES

Features:

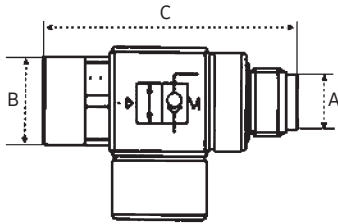
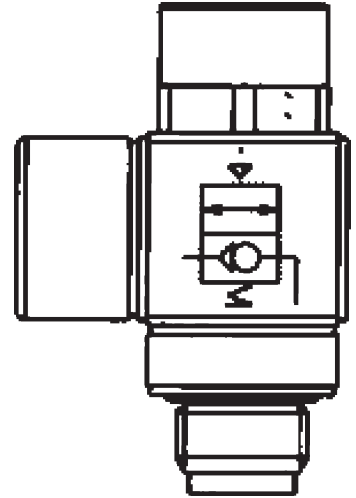
- NPT or G metric threads
- NPT male threads have sealant applied
- Threaded banjo or push-to-connect fitting
- Temperature range: - 10° C to + 70° C
- Operating pressure range: 1 bar to 10 bar

Options:

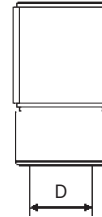
- Printed with valve symbol
- Manual override
- Single packed with private label option

Applications:

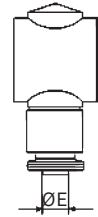
- Pneumatic cylinders



Threaded banjo



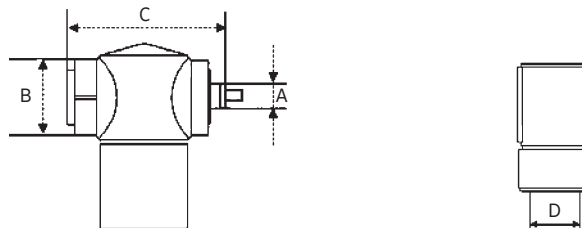
PTC fitting



A	B	C	Max Tightening Torque		D	Part Number Threaded Banjo	E	Part Number PTC Fitting
1/8 NPTF	SW13	41.0	7 Nm	5.1 lbs/ft	1/8 NPTF	300-154-0013	1/4"	300-154-0017
1/4 NPTF	SW17	48.0	15 Nm	11.0 lbs/ft	1/4 NPTF	300-154-0031	1/4"	300-154-0033
3/8 NPTF	SW22	55.0	20 Nm	14.7 lbs/ft	3/8 NPTF	300-154-0046	3/8"	300-154-0049
3/8 NPT*	SW22	55.0	20 Nm	14.7 lbs/ft	3/8 NPTF	300-154-0047		NA
1/2 NPTF	SW27	65.5	20 Nm	14.7 lbs/ft	1/2 NPTF	300-154-0062		NA
1/2 NPT*	SW27	65.5	20 Nm	14.7 lbs/ft	1/2 NPTF	300-154-0063		NA

* 1/8" with pilot port, all other models are 10-32UNF pilot port

Note: Numbers shown are without printing. Please contact nass controls for units printed with valve symbol and metric G threaded models.



A	B	C	Max Tightening Torque		D	Part Number
10-32 UNF	SW8	21.0	1.5 Nm	1.1 lbs/ft	10-32 UNF	300-714-0004
10-32 UNF	SW8	21.0	1.5 Nm	1.1 lbs/ft	1/4" Tube	300-714-0005

Note: Please contact nass controls for PO Check Valves flow data charts.

PRESSURE REGULATORS

Features:

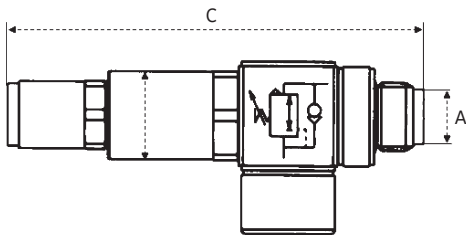
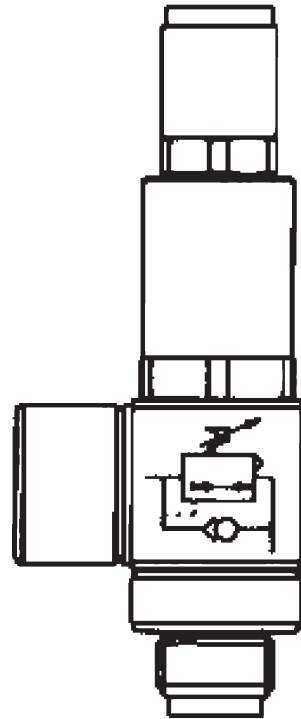
- NPT or G metric threads
- NPT male threads have sealant applied
- Relieving and non relieving models available
- Threaded banjo or push-to-connect fitting
- Temperature range: - 10° C to + 70° C
- Primary pressure range: 1 bar to 16 bar
- Secondary pressure range: 1 bar to 8 bar

Options:

- Printed with valve symbol
- Manual override
- Single packed with private label option

Applications:

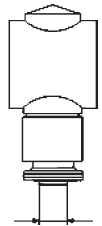
- Table top pneumatic systems



Threaded banjo



PTC fitting



Relieving Regulator

A	B	C	Max Tightening Torque		D	Part Number	E	Part Number
						Threaded Banjo		PTC Fitting
1/8 NPTF	SW17	73.0	7 Nm	11.0 lbs/ft	1/8 NPTF	300-153-0020	1/4"	300-153-2001
1/4 NPTF	SW17	81.0	15 Nm	14.7 lbs/ft	1/4 NPTF	300-153-0049	1/4"	NA

Note: Numbers shown are without printing. Please contact nass controls for units printed with valve symbol, non relieving regulators, and G metric threaded models. Please contact nass controls for Regulator flow data charts.

COMPACT PNEUMATIC SOLENOIDS



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System 3-10 (10 mm Wide)

10 mm valves are perfect for small, compact space requirements for pneumatic applications in all areas including medical. They are available in DC voltages and require very low power (0.6 to 0.9 watts) yet still have a rated pressure of up to 10 bar. Multi functions (2/2, 3/2, normally closed and normally open) are available. On board electronics with LED and surge suppression for protection of sensitive equipment and easy viewing of the solenoid condition (on or off). The valves have worldwide acceptability as they meet the ISO 15218 standard.



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System 6-15 (15 mm Wide)

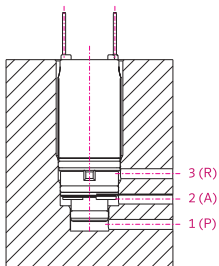
The 15 mm valves are the next size up for applications requiring additional flow. Applications can be found in general industrial, medical, and other uses. They are available in AC/DC voltages and require low power (0.4 to 1.8 watts) yet still have a rated pressure of up to 10 bar. Multi functions (2/2, 3/2, normally closed and normally open) are available. Coil connections are the common Form C pin pattern (8.0 mm). The valves have worldwide acceptability as they meet the ISO 15218 pneumatic interface standard.



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Cartridge 9 mm and 13 mm

The C-9 and C-13 are complete pneumatic, tubular valves that are mounted into a cavity. This unique design allows the valves to require less space and reduces the “clicking” noise of the solenoid. Manifolds can be custom designed by nass controls to specific requirements. The valves are perfect for medical, dental, solenoid pilots, and other miniature pneumatic applications. They are available in DC voltages and require low power (0.8 to 1.2 watts) yet still have a rated pressure of up to 10 bar. Multi functions (2/2, 3/2, normally closed and normally open) and on board electronics are available.



Note: We reserve the right to make product changes without notice.
For use other than general industrial pneumatics, please consult factory.

10 MM MINIATURE SOLENOIDS

Features:

- Small, 10 mm wide
- Meets ISO 15218 standard
- DC Voltages, power of 0.6 to 0.9 watts
- 2/2 and 3/2 normally closed and normally open functions
- Temperature range: - 10° C to + 50° C
- Operating pressure range: 1 bar to 10 bar

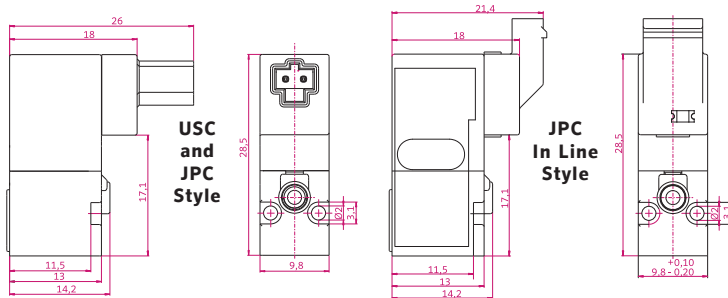
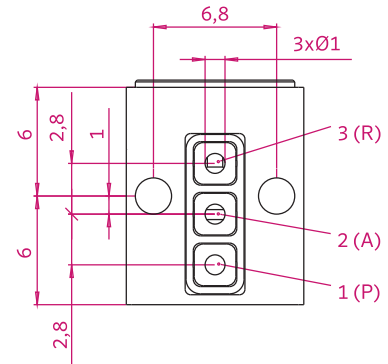


Options:

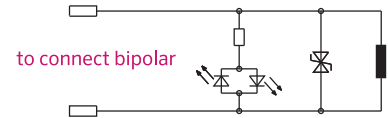
- Private labeling
- Manual override
- In line or 90° wire connection
- Built in LED and surge protection circuits
- Pins only - no wiring cap

Applications:

- Miniature pneumatics
- Pneumatic cylinders
- Medical devices



Circuit Diagram



Key Models

Number	Volts	Inlet/Ex Size	Pressure	Function	Flow (SCFM)	Wire Style	Power
130-070-0091	24 V DC	0.5/0.6 mm	8 bar	3/2 NC	0.25/0.32	USC	0.6 W
130-070-0092	24 V DC	0.5/0.6 mm	8 bar	3/2 NC	0.25/0.32	USC	0.6 W
130-070-0093	24 V DC	0.5/0.6 mm	10 bar	3/2 NC	0.25/0.32	USC	0.9 W
130-070-0143	24 V DC	0.5/0.6 mm	8 bar	3/2 NO	0.35/0.46	USC	0.6 W
130-070-0094	24 V DC	0.7/0.8 mm	8 bar	3/2 NC	0.25/0.32	USC	0.9 W
130-070-0096	24 V DC	0.5/0.6 mm	8 bar	3/2 NC	0.25/0.32	JPC	0.6 W
130-070-0134	24 V DC	0.7/0.8 mm	8 bar	3/2 NC	0.35/0.46	JPC	0.9 W
130-070-0155	24 V DC	0.5/0.6 mm	8 bar	3/2 NO	0.25/0.32	JPC	0.6 W
130-070-0125	24 V DC	0.7/0.8 mm	8 bar	3/2 NC	0.35/0.46	JPC in line	0.9 W

Accessories

616-202-0004	USC lead wire connector 300 mm
616-202-0002	JPC lead wire connector 300 mm
900-822-0033	mounting screw (2 required per valve)



Note: Above valve models have the electrical connection opposite the pneumatic ports. Other models and voltages available. Please consult nass controls for additional information.

15 MM MINIATURE SOLENOIDS

Features:

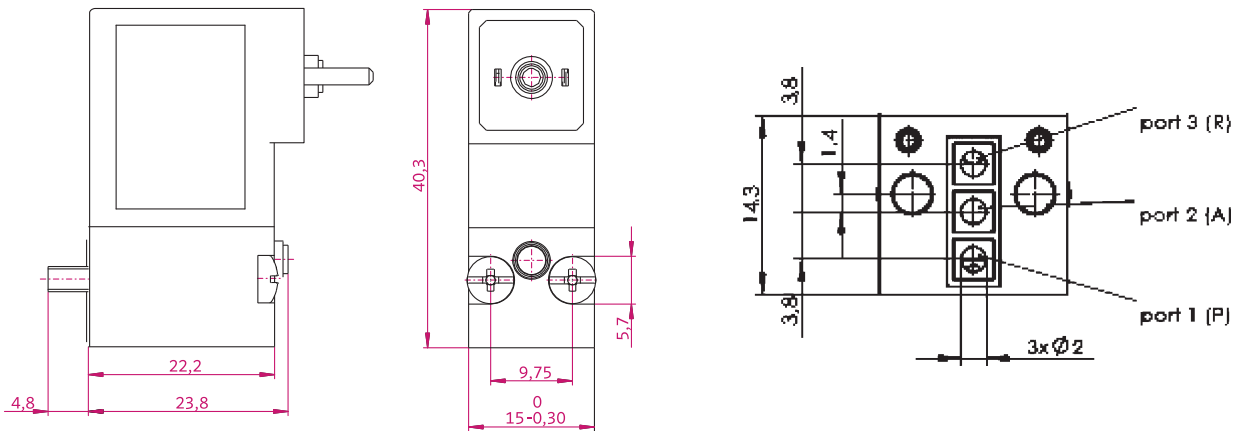
- Small, 15 mm wide
- Meets ISO 15218 standard
- Form C pin pattern or lead wire termination
- AC and DC Voltages
- Power of 0.4 to 1.8 watts
- 2/2 and 3/2 normally closed and normally open functions
- Temperature range: - 10° C to + 50° C
- Operating pressure range: 1 bar to 10 bar

Options:

- Private labeling
- Manual override

Applications:

- Pneumatic cylinders
- Medical devices



Key Models

Number	Volts	Inlet/Ex Size	Pressure	Function	Flow (SCFM)	Ground Pin	Power
131-070-0017	24 V DC	0.6/0.7 mm	10 bar	3/2 NC	0.35/0.42	No	0.4 W
131-070-0018	24 V DC	1.0/1.1 mm	10 bar	3/2 NC	0.88/1.24	No	1.2 W
131-070-0019	24 V DC	1.2/1.3 mm	10 bar	3/2 NC	1.24/1.59	No	1.8 W
131-070-0008	24 V DC	0.6/0.7 mm	10 bar	3/2 NC	0.35/0.42	Yes	0.4 W
131-070-0009	24 V DC	1.0/1.1 mm	10 bar	3/2 NC	0.88/1.24	Yes	1.2 W
131-070-0011	24 V DC	1.2/1.3 mm	10 bar	3/2 NC	1.24/1.59	Yes	1.8 W

Note: Other models and voltages available. All valves have overrides. The coils have the Form C pin pattern and a connector is required. The Form C connectors are found on pages 18 through 21. Please consult nass controls for additional flow information.

9 MM AND 13 MM CARTRIDGE SOLENOIDS

Features:

- Small, 9 mm and 13 mm in diameter
- Unique space saving design that mounts in the manifold
- DC Voltages
- Power of 0.8 to 1.2 watts
- 2/2 and 3/2 normally closed and normally open functions
- Temperature range: - 10° C to + 50° C
- Operating pressure range: 1 bar to 13 bar

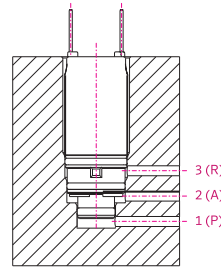


Options:

- Private labeling
- Circuit boards with LED indication
- Manual override

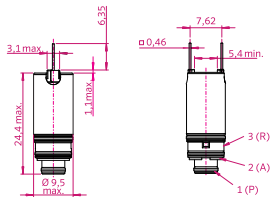
Applications:

- Miniature pneumatics
- Pneumatic cylinders
- Medical devices

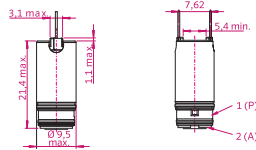


Cartridge 9 mm

3/2 way NC
(normally closed)

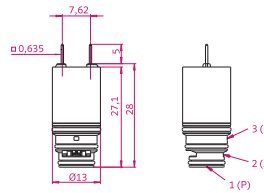


2/2 way NO
(normally open)

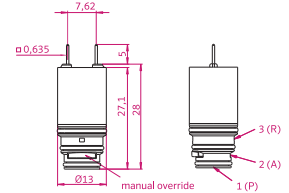


Cartridge 13 mm

Without manual override



Monostable
manual override



Key Models - C-13

Number	Volts	Inlet/Ex Size	Pressure	Function	Flow (SCFM)	Override	Power
121-070-0001	24 V DC	0.8/0.8 mm	10 bar	3/2 NC	0.53/0.60	No	0.8 W
121-070-0002	12 V DC	0.8/0.8 mm	10 bar	3/2 NC	0.53/0.60	No	0.8 W
121-070-0004	12 V DC	0.8/0.8 mm	13 bar	3/2 NC	0.53/0.60	No	1.0 W
121-070-0005	24 V DC	0.8/0.8 mm	8 bar	3/2 NO	0.53/0.60	No	0.8 W
121-070-0006	24 V DC	0.8/0.8 mm	10 bar	3/2 NC	0.53/0.60	Yes	0.8 W
121-070-0021	12 V DC	1.1/1.2 mm	8 bar	3/2 NC	0.85/0.95	No	1.2 W

Key Models - C-9

Number	Volts	Inlet/Ex Size	Pressure	Function	Flow (SCFM)	Override	Power
120-070-0001	24 V DC	0.5/0.8 mm	10 bar	3/2 NC	0.35/0.60	No	1.0 W
120-070-0002	24 V DC	0.5/0.8 mm	4.6 bar	3/2 NO	0.35/0.60	No	1.0 W

Note: Other models and voltages available. Please consult nass controls for additional flow information.

MIDSIZE MODULAR PNEUMATIC SOLENOIDS



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System 6

System 6 is the smallest of the modular solenoid operators as it is 16 mm wide. The modular design allows flexibility in matching the armatures, mounting, and coil styles to the specific application. System 6 is used as the solenoid pilot on pneumatic valves, but applications can be found in general industrial, medical, and other industries as stand alone valves. They are available in AC/DC voltages with pin and lead wire coil options. Multi functions (2/2, 3/2, normally closed and normally open) are available.



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System 8

System 8 is the most popular modular solenoid operator size. This series has applications as solenoid pilots, mobile pneumatics, general industrial, medical, packaging, and others areas. IP 67 rating for moist applications is available. A multiple range of coil options, armatures, and mounting styles are available. Multi functions (2/2, 3/2, normally closed and normally open) are available. Low power of less than 1 watt and cURus rated options are available.



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System 13

System 13 is the largest solenoid operator size and has the most flow of the modular solenoid operator systems. This series has applications in processing, general industrial, mobile pneumatics, and others. Multi functions (2/2, 3/2, normally closed and normally open) are available. cURus rated options are available.

Note: We reserve the right to make product changes without notice.
For use other than general industrial pneumatics, please consult factory.

SYSTEM 8 SOLENOIDS OPERATORS AND COILS

Features:

- Modular solenoid operator system
- AC/DC Voltages
- Power of 0.7 to 3.7 watts
- 2/2 and 3/2 normally closed and normally open functions
- Temperature range: - 10° C to + 50° C, Class F standard
- Operating pressure range: 1 bar to 16 bar

Options:

- Private labeling
- Manual override
- UL(cURus) approval
- Class H temperature rating
- Type B or Form A pin patterns, lead wire, M 12, cable terminations
- - 40° C using NBR or silicone seals



CNOMO solenoid operator



KR solenoid operator with coil

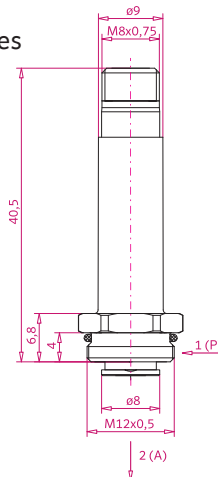
Applications:

- Solenoid pilot for pneumatic valves
- Pneumatic cylinders
- Medical devices

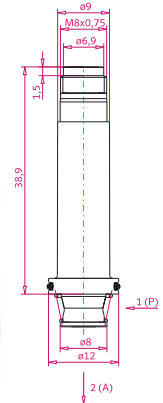
Armatures



M 12 Threaded Style



Flange Style



Note: Contact nass controls for valve seat cavity interface dimensions, drawing number 920-910-0020.

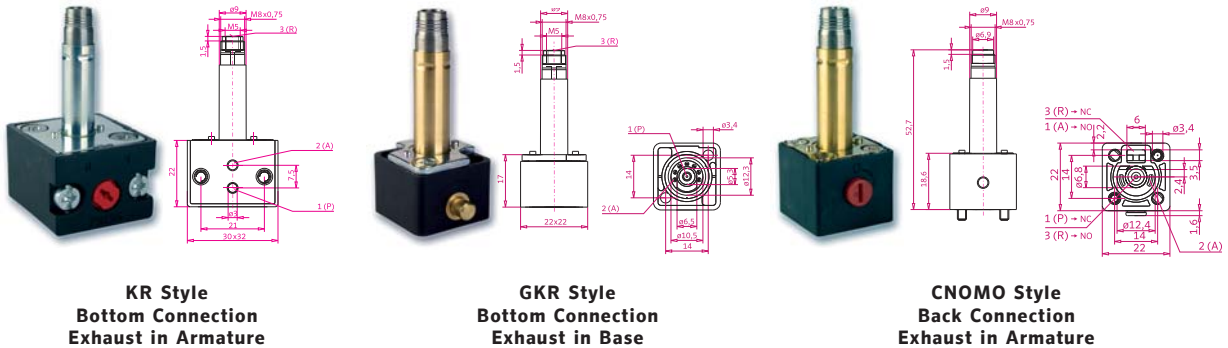
Key Models – Armatures

Number	Function	Inlet/Ex Size	Pressure	Power Level	Volt Type	Material	Style
108-010-0084	3/2 NC	0.8/1.0 mm	8 bar	1	DC	Brass	Flange
108-010-0010	3/2 NC	1.0/1.3 mm	10 bar	3	AC/DC	Brass	Flange
108-010-0007	3/2 NC	1.0/1.3 mm	10 bar	3	AC/DC	SS	Flange
108-010-0009	3/2 NC	1.3/1.5 mm	10 bar	4	AC/DC	Brass	Flange
108-010-0049	3/2 NC	1.3/1.5 mm	10 bar	4	AC/DC	SS	Flange
108-010-0001	3/2 NC	1.5/1.7 mm	10 bar	5	AC/DC	Brass	Flange
108-010-0060	3/2 NC	1.5/1.7 mm	10 bar	5	AC/DC	SS	Flange
108-010-0085	3/2 NC	0.8/1.0 mm	8 bar	1	DC	Brass	M 12
108-010-0017	3/2 NC	1.0/1.3 mm	10 bar	3	AC/DC	Brass	M 12
108-010-0053	3/2 NC	1.0/1.3 mm	10 bar	3	AC/DC	SS	M 12
108-010-0016	3/2 NC	1.3/1.5 mm	10 bar	4	AC/DC	Brass	M 12
108-010-0050	3/2 NC	1.3/1.5 mm	10 bar	4	AC/DC	SS	M 12
108-010-0002	3/2 NC	1.5/1.7 mm	10 bar	5	AC/DC	Brass	M 12
108-010-0045	3/2 NC	1.5/1.7 mm	10 bar	5	AC/DC	SS	M 12
108-010-0006	2/2 NC	consult factory			AC/DC	Brass	Flange
108-010-0005	2/2 NC	consult factory			AC/DC	Brass	M 12

Note: Please consult nass controls for additional information on 2/2 NC and NO armatures.

SYSTEM 8 SOLENOIDS OPERATORS AND COILS

Solenoid Operators



Key Models – Solenoid Operators

Number	Function	Inlet/Ex Size	Pressure	PL	Flow (SCFM)	Volt Type	Body Style	Override
108-050-0188	3/2 NC	0.8/1.0 mm	8 bar	1	0.71/1.06	DC	KR	No
108-050-0208	3/2 NC	0.8/1.0 mm	8 bar	1	0.71/1.06	DC	KR	Turn
108-050-0008	3/2 NC	1.0/1.3 mm	10 bar	3	1.24/1.91	AC/DC	KR	Turn
108-050-0078	3/2 NC	1.0/1.3 mm	10 bar	3	1.24/1.91	AC/DC	KR	Push
108-050-0009	3/2 NC	1.3/1.5 mm	10 bar	4	1.94/2.47	AC/DC	KR	Turn
108-050-0072	3/2 NC	1.3/1.5 mm	10 bar	4	1.94/2.47	AC/DC	KR	Push
108-050-0012	3/2 NC	1.5/1.7 mm	10 bar	5	2.30/2.83	AC/DC	KR	Turn
108-050-0063	3/2 NC	1.5/1.7 mm	10 bar	5	2.30/2.83	AC/DC	KR	Push
108-050-0099	3/2 NC	1.0/1.3 mm	10 bar	3	0.92/1.48	AC/DC	GKR	Turn
108-050-0081	3/2 NC	1.3/1.5 mm	10 bar	4	1.70/1.98	AC/DC	GKR	Turn
108-050-0190	3/2 NC	0.8/1.0 mm	8 bar	1	0.71/1.06	DC	CNOMO	Push/Turn
108-050-0110	3/2 NC	1.0/1.3 mm	10 bar	3	1.24/2.12	AC/DC	CNOMO	No
108-050-0109	3/2 NC	1.0/1.3 mm	10 bar	3	1.24/2.12	AC/DC	CNOMO	Push/Turn
108-050-0114	3/2 NC	1.3/1.5 mm	10 bar	4	1.77/2.65	AC/DC	CNOMO	No
108-050-0111	3/2 NC	1.3/1.5 mm	10 bar	4	1.77/2.65	AC/DC	CNOMO	Push/Turn
108-050-0124	3/2 NC	1.5/1.7 mm	10 bar	5	2.30/3.18	AC/DC	CNOMO	No
108-050-0122	3/2 NC	1.3/1.7 mm	10 bar	5	2.30/3.18	AC/DC	CNOMO	Push/Turn

Note: Push override is monostable (push/spring return). Turn override is bistable (turn to actuate, turn to return).

Key Models – Accessories

Number	Description
108-080-0025	Coil nut
108-080-0020	Side exhaust coil nut
900-841-0065	KR and GKR center o-ring
900-841-0077	KR outside o-ring
108-005-0024	GKR gasket
900-822-0037	KR mounting screw (2 required per KR)
108-702-0003	Flange armature mounting plate



Mounting Plate



Coil Nut



Side Exhaust Coil Nut



Press in valve seat orifices are available.

Consult factory.



KR and GKR Center O-Ring



KR Outside O-Ring



GKR Gasket



KR Mounting Screw

SYSTEM 8 SOLENOIDS OPERATORS AND COILS

Coils



Form A pin



M 12 Round

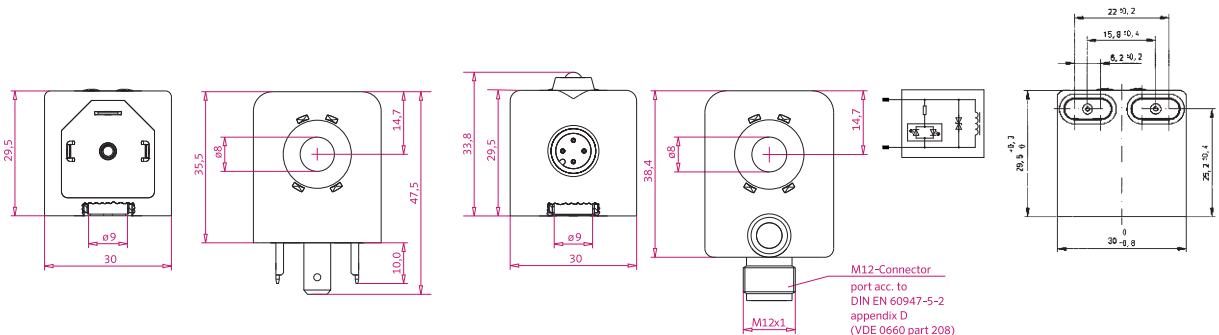


Lead Wires

Key Models – 30 mm Coils

Number	Volts	Connection	Power	PL	Class	Approval	Circuit
108-028-0237	24 V DC	Form A pins	0.7 Watts	1	F	No	
108-028-0233	24 V DC	Form A pins	2.1 Watts	3	F	No	
108-030-1225*	24 V DC	Form A pins	2.1 Watts	3	F	cURus	
108-028-0227	120 V AC	Form A pins	3.1 VA	3	F	No	
108-028-0277	120 V AC	Form A pins	3.1 VA	3	H	No	
108-030-1248*	120 V AC	Form A pins	3.1 VA	3	F	cURus	
108-028-0234	24 V DC	Form A pins	2.7 Watts	4	F	No	
108-028-0278	24 V DC	Form A pins	2.7 Watts	4	H	No	
108-030-1227*	24 V DC	Form A pins	2.7 Watts	4	F	cURus	
108-028-0227	120 V AC	Form A pins	3.6 VA	4	F	No	
108-028-0275	120 V AC	Form A pins	3.6 VA	4	H	No	
108-030-1226*	120 V AC	Form A pins	3.6 VA	4	F	cURus	
108-028-0235	24 V DC	Form A pins	4.5 Watts	5	F	No	
108-028-0274	24 V DC	Form A pins	4.5 Watts	5	H	No	
108-030-0989	24 V DC	Form A pins	4.5 Watts	5	F	cURus	
108-028-0229	120 V AC	Form A pins	4.3 VA	5	F	No	
108-028-0276	120 V AC	Form A pins	4.3 VA	5	H	No	
108-030-1228*	120 V AC	Form A pins	4.3 VA	5	F	cURus	
108-028-0131	24 V DC	Lead wires	2.7 Watts	4	F	No	
108-028-0103	24 V DC	M 12 round	2.7 Watts	4	F	No	LED/Diode
108-028-0104	24 V DC	M 12 round	4.5 Watts	5	F	No	LED/Diode

Note: *The cURus coils are printed with the voltage and are required to be used with nass controls armature. Coil numbers 108-028-xxxx are blank, without printing. Printed versions are available or the coils can be printed with the customer's logo and voltage. The Form A pin coils require a connector which are found on pages 4 through 11. Other power levels and voltages available. All coils are rated IP 65. IP 67 version available. Please consult nass controls for additional information.



SYSTEM 13 SOLENOIDS OPERATORS AND COILS

CNOMO Valve System and coil



Features:

- Modular solenoid operator system
- AC/DC Voltages
- Power of 2.0 to 15 watts
- Form A pin pattern
- 2/2 and 3/2 normally closed and normally open functions
- Temperature range: - 10° C to + 50° C, Class F
- Operating pressure range: 1 bar to 10 bar

Options:

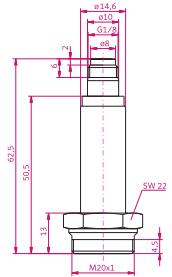
- Private labeling
- Manual override
- cURus approval
- Explosion proof

Applications:

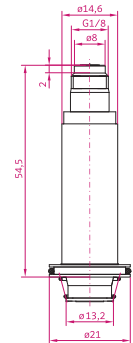
- Solenoid pilot for pneumatic valves
- Pneumatic cylinders
- Processing industry

Armatures

M20 Threaded Style



Flange Style



Note: Contact nass controls for valve seat cavity interface dimensions, drawing number 920-910-0020.

Key Models – Armatures

Number	Function	Inlet/Ex Size	Pressure	Power Level	Volt Type	Material	Style
113-010-0023	3/2 NC	2.0/2.5 mm	10 bar	2	AC/DC	SS	Flange
113-010-0025	3/2 NC	2.5/3.0 mm	10 bar	3	AC/DC	SS	Flange
113-010-0029	3/2 NC	3.0/3.5 mm	10 bar	4	AC/DC	SS	Flange
113-010-0022	3/2 NC	2.0/2.5 mm	10 bar	2	AC/DC	SS	M20
113-010-0024	3/2 NC	2.5/3.0 mm	10 bar	3	AC/DC	SS	M20
113-010-0028	3/2 NC	3.0/3.5 mm	10 bar	4	AC/DC	SS	M20
113-010-0032	2/2 NC	consult factory			AC/DC	SS	Flange
113-010-0031	2/2 NC	consult factory			AC/DC	SS	M20

Note: Please consult nass controls for additional information on 2/2 NC and NO armatures.

Key Models – Accessories

Number	Description
113-080-0004	Coil nut
113-080-0014	Spring washer
113-080-0005	Side exhaust coil nut
113-702-0001	Flange armature mounting plate
900-841-0085	O-ring for threaded armature
900-822-0045	CNOMO mounting screw



Coil Nut



Flange Mounting Plate



Spring Washer



M20 Armature O-ring



Side Exhaust Coil Nut



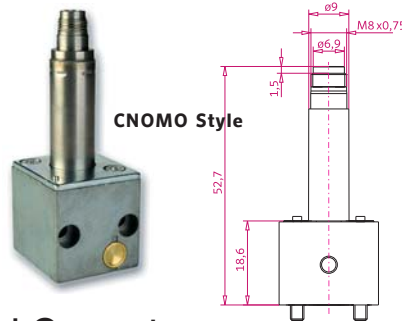
CNOMO Mounting screw



Press in valve seat orifices are available. Consult factory.

SYSTEM 13 SOLENOIDS OPERATORS AND COILS

Solenoid Operators

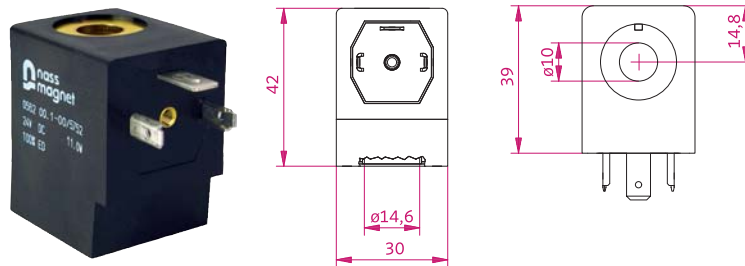


Key Models – Solenoid Operators

Number	Function	Inlet/Ex Size	Pressure	PL Flow (SCFM)	Volt Type	Body Style	Override
113-050-0004	3/2 NC	2.0/2.5 mm	10 bar	2 3.53/6.18	AC/DC	CNOMO	Turn
113-050-0017	3/2 NC	2.0/2.5 mm	10 bar	2 3.53/6.18	AC/DC	CNOMO	Push
113-050-0003	3/2 NC	2.5/3.0 mm	10 bar	3 5.74/7.06	AC/DC	CNOMO	Push
113-050-0007	3/2 NC	3.0/3.5 mm	10 bar	4 5.74/7.06	AC/DC	CNOMO	Turn
113-050-0011	3/2 NC	3.0/3.5 mm	10 bar	4 5.83/7.10	AC/DC	CNOMO	Push

Note: Push override is monostable (push/spring return). Turn override is bistable (turn to actuate, turn to return). Solenoid operators are available without override.

Coils



Key Models – 30 mm Coils

Number	Volts	Connection	Power	Power Level	Class	Approval
113-028-0031	24 V DC	Form A pins	6.1 Watts	2	F	No
113-030-0322*	24 V DC	Form A pins	6.1 Watts	2	F	cURus
113-028-0034	120 V AC	Form A pins	9.8 VA	2	F	No
113-030-0323*	120 V AC	Form A pins	9.8 VA	2	F	cURus
113-028-0032	24 V DC	Form A pins	11.0 Watts	3	F	No
113-030-0296*	24 V DC	Form A pins	11.0 Watts	3	F	cURus
113-028-0045	120 V AC	Form A pins	15.4 VA	3	F	No
113-030-0297*	120 V AC	Form A pins	15.4 VA	3	F	cURus
113-028-0033	24 V DC	Form A pins	15.0 Watts	4	F	No
113-028-0063	120 V AC	Form A pins	19.2 VA	4	F	No

Note: *The cURus coils are printed with the voltage and are required to be used with nass controls armature. Coil numbers 108-028-xxxx are blank, without printing. Printed versions are available or the coils can be printed with the customer's logo and voltage. The Form A pin coils require a connector which are found on pages 4 through 11. Other power levels and voltages available. All coils are rated IP 65. IP 67 version available. Please consult nass controls for additional information.

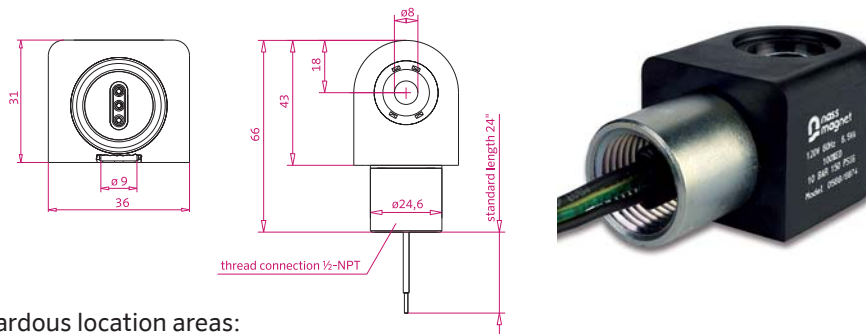
SYSTEM 8 AND 13 HAZARDOUS LOCATION COILS

North American Hazardous Location Coils

The North American approved hazardous location coils consist of explosion proof and intrinsically safe methods of protection. The explosion proof coil is 36 mm wide with a ½ inch NPT conduit and lead wires. The intrinsically safe solenoid assembly is 30 mm wide (Form A pin pattern) and comes as an assembly with the IS coil, armature, and connector.

nass controls/nass magnet North American hazardous location approval agencies are CSA and Factory Mutual (FM).

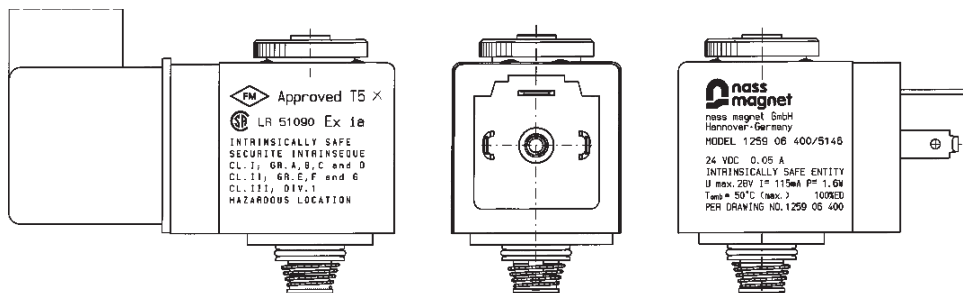
North American Explosion Proof Coil – System 8 Series



Approved hazardous location areas:
 Class I, Division 1, Groups A, B, C, and D; Class II, Groups E, F, and G; Class III
 Class I, Division 2, Groups A, B, C, and D

Note: Please consult nass controls for ordering numbers and application information.

North American Intrinsically Safe Solenoid – System 8 Series



Approved hazardous location areas:
 Class I, Division 1, Groups A, B, C, and D; Class II, Groups E, F, and G; Class III

Note: The IS solenoid must be used with an approved safety barrier. Please consult nass controls for ordering numbers and application information.

**Note: We reserve the right to make product changes without notice.
 For use other than general industrial pneumatics, please consult factory.**

SYSTEM 8 AND 13 HAZARDOUS LOCATION COILS

ATEX Hazardous Location Coils

ATEX approved hazardous location coils consist of explosion proof and intrinsically safe methods of protection. The explosion proof coil sizes are 22, 30, and 36 mm wide and is supplied with a cable. The intrinsically safe coil is 30 mm wide (Form A pin pattern) and requires a connector. Consult factory for ordering and application information.

❶ ATEX Explosion Proof Coil – System 8 Series

The System 8 ATEX approved explosion proof coils are 22 and 30 mm wide. They come with an attached cable. They have temperature ratings of T 4, T 5, or T 6. The temperature rating is depended upon the chosen power level. Gas and dust protection are available. Ambient temperature - 20° C to + 50° C.

- a) 22 mm coil size
Ex II 2 G Ex mb IIC T 5, T 4, Gb; Ex II 2 D Ex mb tb IIIC T 95° C, T 130° C Db IP 65
- b) 30 mm coil size
Ex II 2 G Ex mb IIC T 6, T 5, T 4, Gb; Ex II 2 D Ex mb tb III C T 80° C, T 95° C, T 130° C Db IP 65

❷ ATEX Intrinsically Safe Coil – System 8 Series

The System 8 ATEX approved Intrinsically Safe coils are 30 mm wide with the Form A pin pattern and requires a connector. The IS coil must be used with an approved safety barrier. They have temperature ratings of T4 or T6. Gas and dust protection are available. Ambient temperature - 20° C to + 50° C.

30 mm coil size
Ex II 2 G Ex ia IIB/IIC T 5/T 4, Gb

❸ ATEX Explosion Proof Coil – System 13 Series

The System 13 ATEX approved explosion proof coils are 36 mm wide. They come with an attached cable. They have temperature ratings of T 4, T 5, or T 6. The temperature rating is depended upon the chosen power level. Gas and dust protection are available. Ambient temperature - 20° C to + 50° C.

36 mm coil size
Ex II 2 G Ex mb IIC T 6, T 5, T 4, Gb; Ex II 2 D Ex mb tb IIIC T 80° C, T 95° C, T 130° C Db IP 65

Other ATEX Approved Coils



- ❹ **System 8** non incendive:
Ex II 3 G Ex nA IIC T 5 Gb; Ex II 3 D Ex tc IIIC T 95° C Dc IP 65
- ❺ **System 8** Low Temperature explosion proof coil:
Ambient temperature - 50° C to + 50° C.
Ex II 2 G EEx ma II T 4, T 5, T 6; EX II 2 D IP 65 T 80° C, T 95° C, T 130° C
- ❻ **System 13** Low Temperature explosion proof coil:
Ambient temperature - 40° C to + 50° C.
Ex II 2 G Ex e mb IIC T 4, T 6 Gb; EX II 2 D Ex tb mb IIIC T 130° C, T 80° C Db IP 65, IP 67



**Note: We reserve the right to make product changes without notice.
For use other than general industrial pneumatics, please consult factory.**

nass controls, located in New Baltimore, Michigan, is the North American manufacturing facility as well as the sales, distribution, and marketing office for **nass magnet GmbH**, Hannover, Germany, and **nass magnet Kft.**, Veszprém, Hungary. **nass controls marketing area is North, Central, and South America, and Australia.**

Our product offering features pneumatic 2/2 and 3/2 solenoid valves and coils used in industrial, mobile, processing, and other industries. We offer a wide range of miniature solenoid valves, coils, and pilot assemblies. Electrical connectors commonly used on hydraulic and pneumatic solenoid valves, pressure switches, transducers, and other industrial electrical components complement the solenoid valve products. The connectors are available with and without cable, and in a variety of circuit options. The product offering also includes pneumatic function fitting products such as right angle flow controls, pressure regulators, and pilot operated check valves.

In addition, nass controls offers services such as custom wiring of connectors, harness assemblies, individual packaging, and private labeling.

INNOVATIONBY NASSCONTROLS



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