N Series EEx me Aluninum

NAMUR Mounted, Pilot Operation Spool Type Solenoid Valve EEx me II T5
Aluminum Encapsulated Coil Enclosure, CNOMO Interface
Robust Coil Unit With Integral Terminal Box

9TN2AA-CM

[FEATURES]

- Integral terminal box with coil housing.
- Stainless steel 316 spool for all model.
- Interchangeable CNOMO interface for various coil options available.
- Single coil spring return function or double coil stay put function.
- Inner epoxy molded coil.
- Wide range of voltages available.
- Low power consumption.
- NAMUR adaptor to convert 5/2 to 3/2 function.

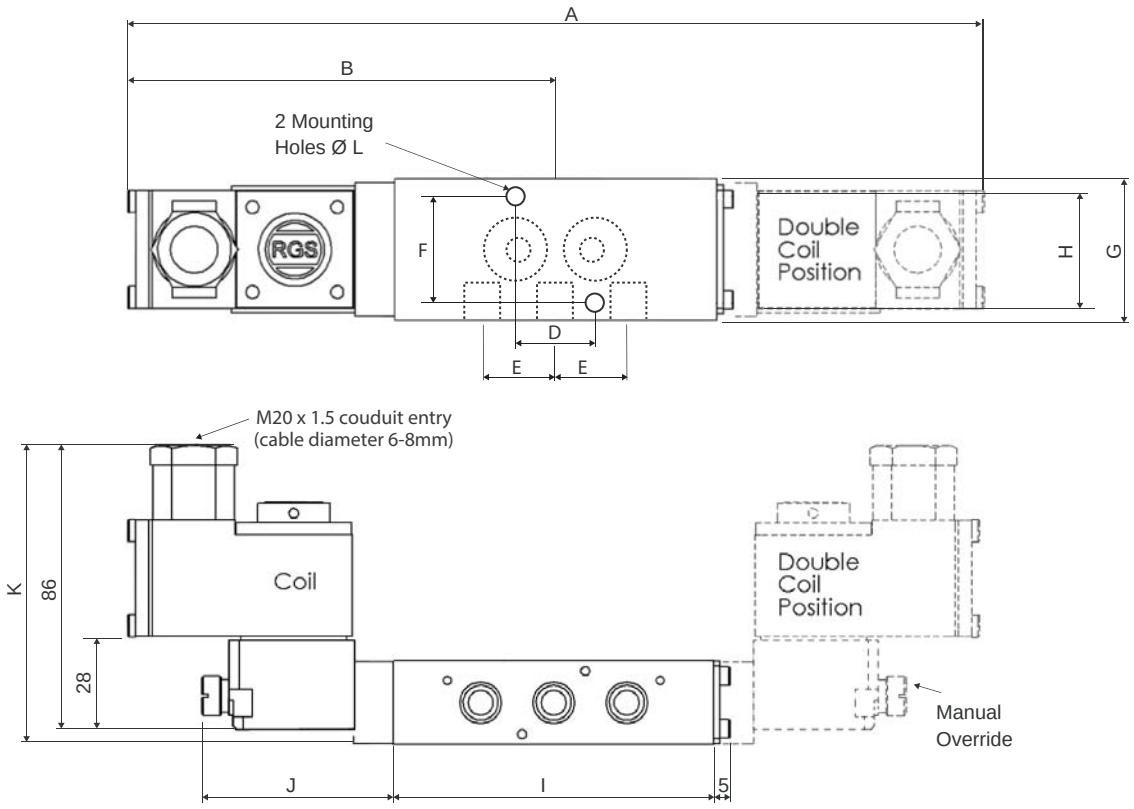
[CONVERSION FACILITY]

5/2 to 3/2 function conversion adaptor for spring return and double acting actuators respectively. (see reverse)

[INTRODUCTION]

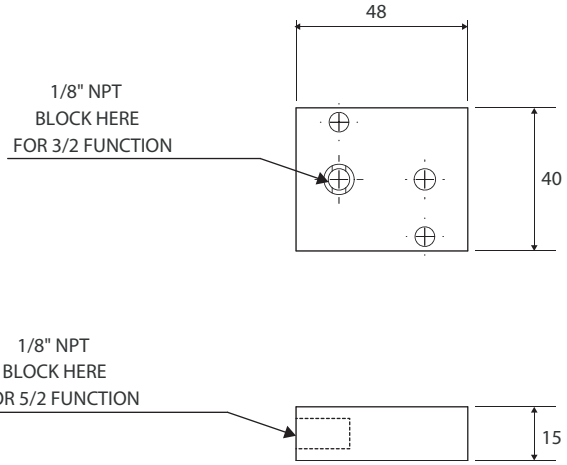
N series solenoid valve is designed for direct mounting onto 1/4 turn pneumatically operated valve actuators meeting “NAMUR” standard fixing dimensions.Suitable for Zones 1 and 2, manufactured in accordance with the requirements of the European harmonized standards EN50014. IIC T5.

[DIMESION]

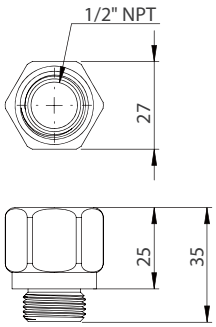


BODY TYPE		DIMENSIONS (mm)										
		A	B	C	D	E	F	G	H	I	J	K
5 Ports 2 Position & 5 Ports 3 Position	1/4 NPT	258.60	129.30	-	24	22	32	42.20	36	96.50	50	90.50
	3/8 NPT	258.60	129.30	-	24	22	32	42.20	36	96.50	50	90.50

[FUNCTION CONVERSION ADAPTOR]



M20 male to 1/2" NPT female thread adaptor



[VALVE]

MATERIAL SPECIFICATION	STANDARD
Body and End Caps	Aluminum and Stainless Steel 316
Spool	Stainless Steel 316
Seals	H-NBR
Spring	Stainless Steel

VALVE SPECIFICATION	STANDARD
Port Connection Size	1/4" - 3/8" NPT
Working Pressure	2 to 8 bar
Cv Factor	2.0
Maximum Ambient Temperature	+65°C
Minimum Working Temperature	-10°C

[COIL]

MATERIAL SPECIFICATION	STANDARD
Coil Case	Zinc Alloy Epoxy Powerder Coated
Armature	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seat	Viton
Coil Former	30% Glass Filled PBT
Magnetic	Class H Coated Copper

SOLENOID	STANDARD	
Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	110, 220, 50/60 Hz
Voltage Tolerance	±10%	±10%
Ambient Temperature	-10 to +65°C	-10 to +55°C
Duty Cycle	100%	100%
Degree of Protection	IP66	IP66
Connection	Flying Leads	Flying Leads
Power Consumption	0.4 Watts with Barrier	0.4 Watts with Barrier
Pressure Range	0 - 8 Bar	0 - 8 Bar

TEMP. RATING	PHASE	RATING	MAX. AMBIENT TEMP.	MAX. CABLE ENTRY TEMP.
T6	DC	3W	40°C	N/A
T4	AC	9.5va	40°C	90°C
T5	DC	3w	55°C	N/A
T3	AC	9.5va	55°C	105°C
T4	DC	3W	65°C	85°C
T4	DC	3W	80°C	105°C

[PRODUCT CODE]

9	●	N	●	●	●	–	●
COIL	VOLTAGE	SERIES CODE	PORT	VALVE MATERIAL	FUNCTION		OPTION

COIL

9 AV6369000 RGS AV636900 EEx m Operator with Aluminum Enclosure.

VOLTAGE

H 24V DC
Low Power 0.5 Watt

T 110V AC (50/60 Hz)

U 240V AC (50/60 Hz)

PORT

2 1/4" NPT cv2.0

3 3/8" NPT cv2.0

VALVE MATERIAL

S Stainless Steel

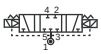
A Alloy Aluminum

FUNCTION

A 5/2 Single Acting Left 

K 5/2 Single Acting Right 

B 5/2 Double Acting 

C 5/3 3 Position Block Center 

D 5/3 3 Position Exhaust Center 

OPTION

A NAMUR Function Conversion Adapter

M Manual Override

H High Temperature FKM Seal

C 1/2" NPT Electric Conduit

P External Pilot Air Connection

X Customized (Additional Code is required)

[ENCAPSULATION SAFETY]

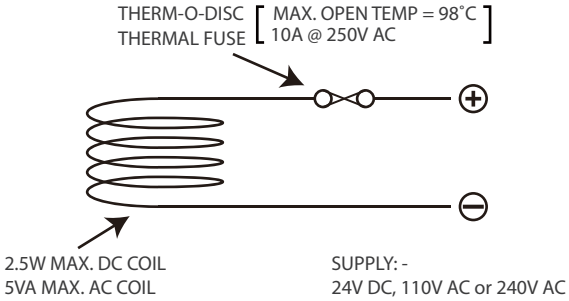
Type 'm' (Encapsulation) is a type of protection in whitch the parts which could ignite an explosive atmosphere by either sparking or heaying are encloses in a compound in such a way that the explosive atmosphere cannot be ignited.

The R.G.S. 'm' coil is housed in a metal enclosure which is potted with epoxy resin to form a hermetically sealed unit. A thermal fuse is embedded in the resin to prevent the coil overheating in the event of a fault.

[CABLE GLANDS AND CABLE]

The coil must be protected for a propective short circuit current of 4000A by providing a fuse in the supply with a breaking capacity of 4000A. The recommended rating for each fuse is 250mA for all EEx'm' coil voltages.

[COIL CIRCUIT]



[METHODS OF PROTECTION]

The generic term for all methods of protection of electrical equipment used in Europe is ' explosion proof '. American practice is to use this term for flameproof equipment. The table lists the more usual methods of protection.

TECHNIQUES	
Oil Immersion	o
Pressurisation	p
Powder Filling	q
Flameproof Enclosure	d
Increased Safety	e
Intrinsically Safe	ia
Intrinsically Safe	ib
Non-incendive	N
Encapsulation	m
Special Protection	s

[SOLENOIDS VALVES IN HAZARDOUS AREAS]

Not all of these methods are applicable to solenoid protection, the more commonly used are listed below.

1. Flameproof This form of protection entails enclosing the coils in a robust enclosure which will contain an internal explosion should it occur and prevent its transmission to the surrounding atmosphere.

2. N-Type Protection (Non-incendive) Generally applied to non-sparking electrical components such as a solenoid coil which will not get abnormally hot even if the armature is locked out.

3. Encapsulation This involves enclosing the coil and any associated electrical components in a compound so as to prevent the ignition of a surrounding explosive atmosphere.

4. Intrinsically Safe Intrinsic safety is a technique that achieves safety by limiting the electrical-spark energy (and surface temperature) that can aries in hazardous area circuits to levels that are insufficient to ignite an explosive atmosphere.

An intrinsically safe system consists of a certified Intrinsically safe interface which passes signals to and from the process (hazardous area) but limits the energy (that is voltage and current) that can reach the hazardous area under fault conditions.

The interface is usually mounted in the safe area and can be either a shunt diode safety barrier or a galvanic isolator.

In the hazardous area 'simple' or 'non-energy storing devices' (switches, thermocouples & LED's) can be used without certification but 'Energy-storing' equipment such as solenoid valves must be designed so as to prevent this energy escaping and of necessity need to be of sufficiently low power to operate within the constraints of the IS signal.

5. Special Protection Offers combination of one or more methods of protection and in the case of solenoids these are usually 'e' and 'm', where the coil is encapsulated, has over temperature protection and the terminals are approved under the increased safety requirement.