Safety note SN/257GD.... rev.2

Electromagnets type 257GD....

II 2 GD / I M2

Ex mb IIC T6, T5, T4 Gb

Ex mb IIIC T85°C, T100°C, T135°C Db

Ex mb I Mb

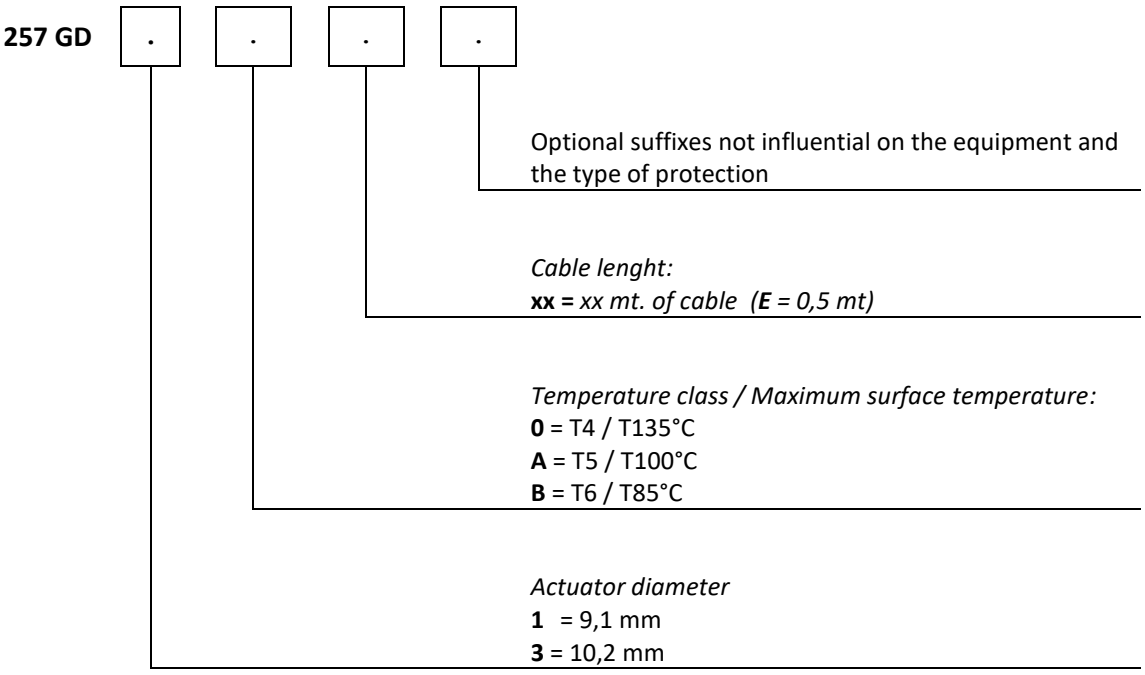
1. GENERAL DESCRIPTION

The electromagnets type 257GD.... are device suitable to be installed in zone 1 and zone 21 with type of protection Ex mb IIC / Ex mb IIIC and Ex mb I for mine, in accordance with:

- IEC 60079-0:2017 Equipment - General requirements
- IEC 60079-18:2014 Equipment protection by encapsulation "m"

- EN IEC 60079-0:2018 Equipment - General requirements
- EN 60079-18:2015+A1:2017 Equipment protection by encapsulation "m"

Model identification:



2. TECHNICAL CHARACTERISTICS

Rated voltage : 24 V_{DC}
24 ÷ 230 V_{AC} - 50/60 Hz

Maximum power : 3,2 ÷ 5,3 W

The temperature class and the maximum surface temperature depends on the solenoid power:

Temperature class	*Maximum surface temperature*	*Rated Voltage*	*Max. Power*
T4	T135°C	24 V_{DC}	5,3W
T4	T135°C	24 ÷ 230 V_{AC}	5,3W
T5	T100°C	24 V_{DC}	4,8W
T5	T100°C	24 ÷ 230 V_{AC}	4,8W
T6	T85°C	24 V_{DC}	3,2W
T6	T85°C	24 ÷ 230 V_{AC}	3,2W

Ambient temperature : from -20°C to +40°C
Protection degree : IP66/IP67

Cable : 3x0,75mm^2 suitable for at least temperature = 105°C

3. MARKING

ATAM S.p.A
Type : 257GD….

ATEX Directive:
CE **0722** Ex **II 2 GD / I M2**
UKCA marking:
UK CA **2503**

Type of protection
Ex mb IIC T6, T5, T4 Gb
Ex mb IIIC T85°C, T100°C, T135°C Db
Ex mb I Mb

Each model is provided by specific marking depending the electromagnets power.

ATEX Directive

0722	=	Notified Body identification number for quality production survey (CESI)
II / I	=	group II and group I
2 GD	=	category 2 GD, equipment suitable for zone 1 (gas) and zone 21 (dust)
M2	=	category M2, equipment for mine, de-energized when explosive atmosphere present

Type of protection

Ex mb IIC	=	type of protections for gas group IIC
T6, T5, T4	=	temperature class for gas
Gb	=	EPL (Gas)

Ex mb IIIC	=	type of protection for dust group IIIC
T85°C, T100°C, T135°C	=	maximum surface temperature for dust
Db	=	EPL (Dust)
Ex mb I	=	type of protection for group I
Mb	=	EPL (Mine)

Relation between hazardous areas, categories and EPL

Hazardous area		***Categories***	***EPL***
Gas, vapour or fog	Zone 0	1G	Ga
Gas, vapour or fog	Zone 1	2G *or* 1G	Gb *or* Ga
Gas, vapour or fog	Zone 2	3G, 2G *or* 1G	Gc, Gb *or* Ga
Dust	Zone 20	1D	Da
Dust	Zone 21	2D *or* 1D	Db *or* Da
Dust	Zone 22	3D, 2D *or* 1D	Dc, Db *or* Da
Mine	-	M2	Mb or Ma

4. SAFETY INSTRUCTIONS FOR INSTALLATION IN HAZARDOUS AREAS

The electromagnets type 257GD.... shall be installed and maintained according to the applicable standards regarding electrical installations in hazardous area (for example: IEC/EN 60079-14 and IEC/EN 60079-17 or other national standards).

Before installing, carefully read the instruction manual.

This apparatus must be installed and put into operation in accordance with the provisions and regulations. Shall not be liable for damage caused by non-observance of the instructions and inappropriate use.

Bodies of electromagnets type 257GD.... are provided by an external ground connection terminal located onto the body. Such a terminal must be connected to the earth line of system with a suitable cable.
An additional ground wire, connected internally to the body of solenoids, is incorporated to the cable of solenoids. It is a green-yellow cable with section of 0,75 mm^2.

It is forbidden any technical modification.

In zones with presence of combustible dusts it is necessary to periodically clean the surface of the lighting fixtures, limiting the depth of the layer to less than 5 mm.

Any repair activity of the ex-proof solenoids isn't admitted. In case of damage any ex-proof solenoid must be replace with a new one of the same type.

Warning label:

WARNING, ELECTROSTATIC DISCHARGES :
DO NOT RUB, CLEAN ONLY WITH A DAMP CLOTH

PARTICULARS CONDITIONS FOR SAFE USE:

- The permanently connected unterminated supply cables must be mechanically protected against the risk of damage due to the mechanical stress.

- The connector blocks must be located out of hazardous area or be protected by a standardized mode of protection

- For an apparatus with interdependent cable, the user will have to connect the end of the cable either out of hazardous area or in an enclosure protected by a mode of protection recognized and adapted to the zone considered.

- For gassy mines using, the apparatus shall be installed in location with low risk of mechanical danger or protected by guards or protective covers suitable to withstand an impact of 20J.

- “A fuse corresponding to the rated current of the electromagnet (max. 3 x Irat according to IEC 60127) shall be connected in series to each solenoid as short-circuit protections. The rated voltage of the fuse shall be the same as or higher than the maximum value of the nominal voltage (Un + 10%) specified for the magnet. The breaking capacity of the fuse link shall be the same or higher than the maximum short-circuit current excepted to occur at the place of installation (usually 1500 A)”