LUCIFER®

Explosion-proof Solenoids

II 2 G / II 2 D
EEx dm IIC T4, T5, T6

Catalogue 8735/GB

ATEX

Système de Management Certifié ISO 9001/14001
Reg. No. 10440

Parker

Explosionproof solenoids with flameproof enclosure/encapsulation "dm"

According to ATEX directive 94/9/EC and Standards EN 50014, EN 50018, EN 50028 and EN 50281-1-1

Application:

Control of solenoid valves intended for installations in hazardous areas in which explosive gas- vapour- or dust atmospheres are present, i. e. zones 1, 21 or zones 2, 22 (ATEX: Group II, apparatus categories 2G/D or 3G/D).
The enclosure of these explosion proofs solenoids "dm" is made entirely in synthetic material. All external metallic components in contact with the atmosphere are made in stainless steel. The integrated sealing and O-rings assure the degree of protection IP67. Therefore, these products took into account not only the suitability with hazardous areas but also extremely corrosive environment, e. g. Chemical, Petrochemical and Refineries industries (CPR). Due to the compact size and easy cable connection by screw terminals, these solenoids may be mounted in confined spaces.

Features:

The coil winding (copper wires of insulation Class H) and magnetic iron path are encapsulated in synthetic material Class H and meet "m" protection. The connection box and cover of selected high quality synthetic material (Class H) in order to meet the standard EN 50018 for type of protection "d" flameproof enclosure. **The cable gland assembly M20x1.5 makes part of the "d" certificated enclosure**. The solenoids are provided with an embedded non-resetting thermal fuse to prevent excessive heating, i.e. assuring the maximum allowed surface temperatures T4/T5. A varistor for peak voltages suppression is potted-in, in Epoxy resin Class H. Additional safety assures a built in replaceable fuse easily accessible in the connection box. (see table 2: fuses/ varistors). Low power version available.

Benefits:

Thanks to the innovative design of Parker Lucifer engineers, it has been possible to create a full plastic flameproof enclosure "d" with a very high safety level. The volume in the connection box (ignition volume) could be reduced to less than 10 cm3 only. In case of a spark, an explosion is much less probable and if it takes place, the explosion will generate a very low pressure only. The flame will extinguish immediately. Nevertheless, the design of the flameway / safe gap (between enclosure/cover) meets to an ignition volume of 100 cm3,. Therefore, the housing would resist even against the pressure generated by an internal explosion of an explosive mixture of 100 cm3; this gives an extra safety.

495900 Low power 2W-2.5W (compatible with all Lucifer valves ending … 97 , see table 1)
495905 Standard 8W (suitable with all Lucifer valves compatible with coil 481865 -9W)

Reference			**495900 VDC**	**495900 VAC**	**495905**
Approval			**LCIE 02 ATEX 6451 X**		
Type of protection		**Gas**	II 2 G - EEx dm IIC T5 / T6	II 2 G - EEx dm IIC T4 / T5 / T6	II 2 G – EEx dm IIC T4
		Dust	II 2 D – +95 °C / +80°C	II 2 D – +130 / +95 / +80°C	II 2 D – +130 °C
Degree of protection			IP67		
Ambiant temperature			-40 to +65°C / +55°C	-40 to +65 / +55 / +40°C	-40 to +65 °C
			The application is limited also by the temperature range of the valve		
Insulation Class			H (180 °)		
Electrical connection			Electric connection is done in the connection box on an easily accessible connector terminals. The introduction of the cable **(Ø min 7 mm, Ømax. 9 mm, section max. 2.5 mm²)** in the connection box passes by the built in M20x1.5 cable gland		
Elec. Power	**DC**	**Pn** (hot)	2 W	-	8 W
		P (cold) 20°C	2.5 W	-	9 W
	AC	**Pn** (holding)	-	2.5 W	8 W
		Attraction cold	-	3W	9 W
Nominal voltage			6 to 110 VDC	12 to 240 VAC	6 to 110 VDC 12 to 240 VAC
Voltage tolerance			± 10 % of the nominal voltage		
Solenoid duty			Continuous duty solenoid (ED 100%)		

Parker Lucifer SA
Fluid Control Division Europe
Carouge/Geneva - Switzerland