

## Ex-Proof Electromagnet With Cable or Terminal Box

DICTATOR explosion-proof electromagnets belong to group II of explosion-proof devices and are authorised for use in hazardous locations of classification zones 1 and 2, 21 and 22 (according to the standard VDE 0165), with the exception of underground pits.

Explosion-proof magnets are produced with encapsulated protection (Ex m).

All explosion-proof magnets are equipped by default with diodes (spark extinction diodes) and polarity protection.

DICTATOR explosion-proof electromagnets have been tested according to **EN 1155** and also the directive **2014/34/EU (ATEX)**.

They are registered under the **type-examination certificate** IBEU14ATEX1211X/PTB 03 ATEX 2174X and the confirmation of the conformity to building class PTB 03 ATEX N060-5 at the PTB Institute, Braunschweig/Germany.



### Technical Data

Electromagnet	EM GD 50 Ex .. m	EM GD 70 Ex .. m
Voltage $\pm 15\%$	24 VDC	24 VDC
Max. permitted ripple	20 %	20 %
Power consumption ( $\pm 15\%$ )	67 mA (1.6 W)	70 mA (1.7 W)
Force / Remanence	600 N / 0 N	1450 N / 0 N
Protection / Duty cycle	IP 66 / 100 %	IP 66 / 100 %
Operating temperature	-20 to +40 °C	-20 to +40 °C
Finish	magnet zinc-plated, terminal box varnished grey	
Ex-protection cable design	Ex II 2G Ex mb IIC T6 Gb / Ex II 2D Ex mb IIIC T85°C Db	
Ex-protection terminal box	Ex II 2G Ex mb e IIC T6 Gb / Ex II 2D Ex mb e IIIC T85°C Db	



## Explosion-Proof Electromagnet with Connection Cable

The economic DICTATOR explosion-proof electromagnets with connection cable are recommended when a distributing box is available; either a normal one outside the hazardous location, or an explosion-proof box within the area. The magnets are provided with a 2 m connection cable or the length indicated with the part number. Other lengths can be supplied on request.

The magnet is fixed to a base plate. There are four holes provided in the base plate for easy and fast installation.

## Installation

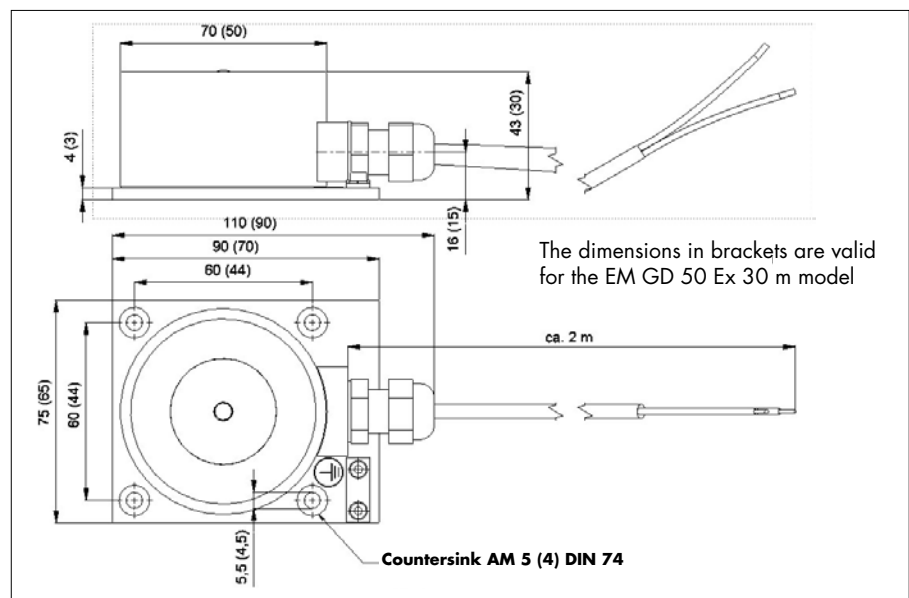
The DICTATOR explosion-proof magnet is fixed to the wall behind the door that needs to be kept open. The connection cable must be securely embedded and sufficiently protected from mechanical damage (e.g. by using a cable channel).

A counter plate needs to be fixed to the door as a counterpart to the magnet. A selection of counter plates can be found following the descriptions of the electromagnets. Make sure that the diameter of the counter plate is at least the same, or larger than that of the magnet.

**Important:** The encapsulated DICTATOR types "EMGD...Ex...m" can directly be connected to the DICTATOR central RZ-24 (see page 07.009.00). However each magnet must be protected by a fuse (G 200 mA type semi-timelag) of max.  $3 \times I_B$  according to IEC 60127-2-1 (connected in series), which corresponds to its rated current. On the mounting plate of the magnet a terminal is provided to connect the equipotential bonding conductor of a minimum cross section of 4 mm<sup>2</sup> to assure the equipotential bonding.

**Advice:** According to fire protection regulations a hand switch must be installed beside the fire protection door to release it (explosion-proof hand switch, part no. 700232). Please observe the relevant regulations for hazardous areas when mounting and connecting the electromagnet.

## Dimensions



## Order Information

EM GD 50 Ex 30 m	cable 2 m (standard)*	part no. 040154
EM GD 70 Ex 43 m	cable 2 m (standard)*	part no. 040156

\* Length of cable: standard 2 m, optionally 5, 10 or 15 m

The length of the cable is added to the part number:

e.g. EM GD 50 EX 30 m with a 5 m long connection cable: 040154-5



### Explosion-Proof Electromagnets with Terminal Box

DICTATOR EM GD...Ex...em electromagnets are provided with an explosion-proof terminal box with own binders. The magnets can therefore be connected directly and no further explosion-proof distributing boxes are required. The cable is inserted into the terminal box through a tested ATEX M20x1.5 conduit gland. The connection cable should have an outer diameter of 5 to 10 mm and a maximum wire cross section of 2.5 mm<sup>2</sup>. The EM GD...Ex...em electromagnet has "Encapsulation (m)" protection and the terminal box has "Increased safety (e)" protection.

### Installation

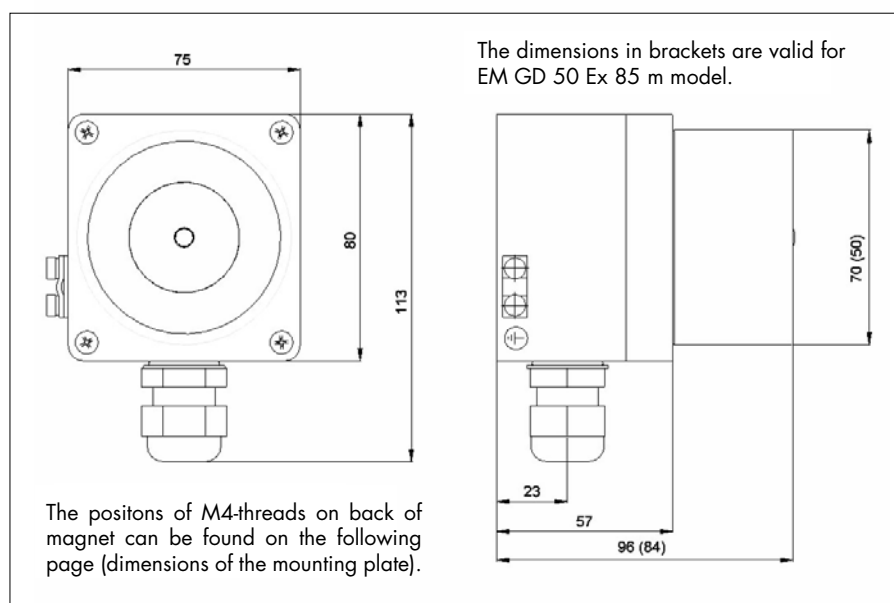
The DICTATOR explosion-proof magnet with terminal box is fixed to the wall behind the door that needs to be kept open. For a secure installation we recommend our mounting plate, part no. 205252 (see following page), to which the magnet is screwed with 2 M4 screws.

A counter plate needs to be fixed to the door as a counterpart to the magnet. A selection of DICTATOR counter plates can be found following the descriptions of the electromagnets. Make sure that the diameter of the counter plate is at least the same, or larger than that of the magnet.

**Important:** The encapsulated DICTATOR types "EMGD...Ex...m" can be connected directly to the DICTATOR central RZ-24 (see page 07.009.00). However each magnet must be protected by a fuse (G 200 mA type semi-timelag) of max.  $3 \times I_B$  according to IEC 60127-2-1 (connected in series), which corresponds to its rated current. On the outside of the terminal box a terminal is provided to connect the equi-potential bonding conductor of a minimum cross section of 4 mm<sup>2</sup> to assure the equipotential bonding.

**Advice:** According to fire protection regulations a hand switch must be installed beside the fire protection door to release it (explosion-proof hand switch, part no. 700232). Please observe the relevant regulations for hazardous areas when mounting and connecting the electromagnet.

### Dimensions



### Order Information

EM GD 50 Ex 85 m electromagnet	part no. 040157
EM GD 70 Ex 99 m electromagnet	part no. 040159

Both models are supplied with connection box and a M 20 x 1.5 gland.



### Accessories: Mounting Plate, Fuse

We recommend you to use a mounting plate when installing magnets EM GD 50 Ex 85 and EM GD 70 Ex 99 on a porose surface to ensure they are securely fixed to the wall.

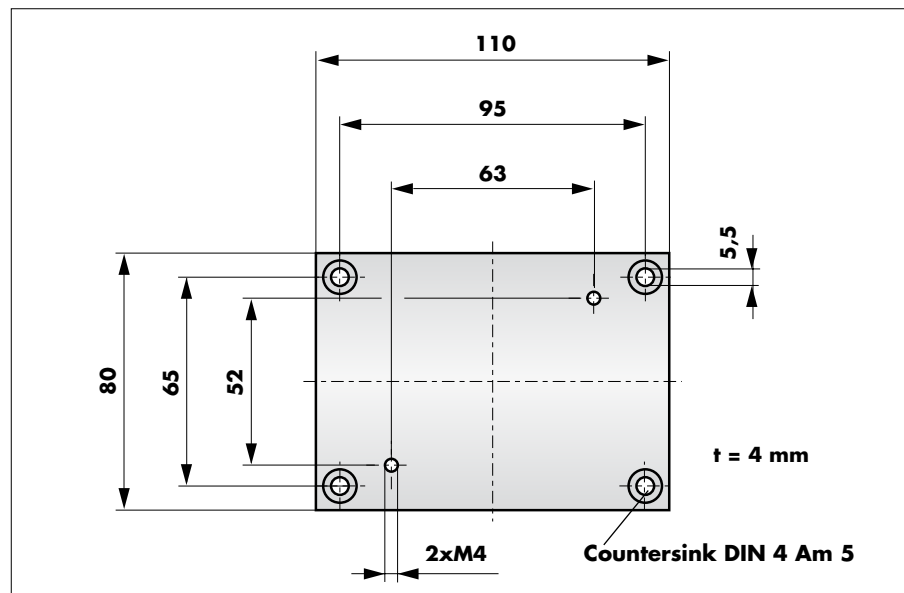
The magnet is screwed to the mounting plate and fixed to the wall with 4 screws.

Each magnet must be protected by a fuse of max.  $3 \times I_B$  according to IEC 60127-2-1 (connected in series) (fuse G 200 mA type semi-timlag). DICTATOR furnishes the required fuses type 5x20, semi-timlag and the corresponding fuse carrier.

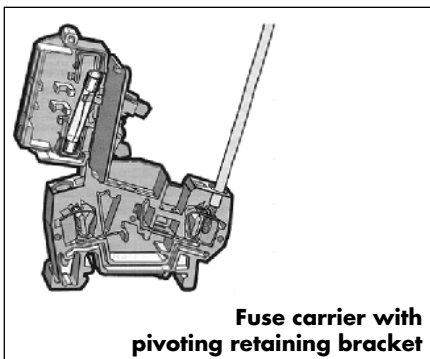
### Mounting Plate

The DICTATOR mounting plate is screwed to the wall behind the door that has to be kept open by the magnet with 4  $\varnothing 5$  flat head screws. The magnet is then fixed to the mounting plate with two M4-screws.

### Dimensions



### Fuse, Fuse Carrier



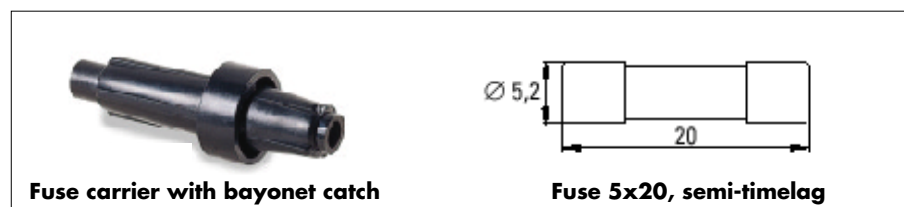
The fuse is placed with the fuse carrier directly into the feeding line to the ex-proof magnet. There are available two different types of fuse carriers.

- Fuse carrier for soldering directly into the feeding line, with bayonet catch

Dimensions of the fuse carrier:  $L = 43.2 \text{ mm}$ ,  $\varnothing = 14.2 \text{ mm}$

Suitable for cables with a cross section up to max. 4 mm

- Fuse carrier for mounting on top hat rails, with pivoting retaining bracket



### Order Information

Mounting plate for explosion-proof magnets	part no. 205252
Fuse 5 x 20, semi-timlag, 200 mA	part no. 040586
Fuse carrier with bayonet catch	part no. 040587
Fuse carrier with pivoting retaining bracket	part no. 040588