

Product

Type designation: 41 01E0xKxx

Part number: 41xx0xxx

This DC linear solenoid / single linear control magnet is used mainly as a switching magnet. This magnet system is designed for use in potentially explosive atmospheres in category 2 equipment group II.

It is built and tested for ignition protection type increased safety "e" as per EN 60079-7:2007 and EN 60079-0:2012+A11:2013.

Technical data for magnet type 41 01E0xKxx:

Protection class:	IP54 EN 60529
Ex classification:	 II 2G Ex eb IIC T4 Gb
Approval:	PTB 16 ATEX 2010 X

Electrical data for magnet type 41 01E06K00:

Nominal voltage:	24V DC
Voltage tolerance:	+/- 10%
Nominal current:	0.87A
Rated current:	0.90A
Nominal capacity:	21W
Rated output:	Max 21.7W
Test voltage:	1500V
Duty cycle:	100%
Varistor:	SIOV-S14K150 from EPCOS or equivalent
Fuse:	2.5 A
Max ambient temperature:	-20°C / + 40°C
Max surface temperature:	83°C

Electrical data for magnet type 41 01E07K00:

Nominal voltage:	24V DC
Voltage tolerance:	+/- 10%
Nominal current:	1.05A
Rated current:	1.09A
Nominal capacity:	25.3W
Rated output:	Max 26.2W
Test voltage:	1500V
Relative duty cycle:	100%
Varistor:	SIOV-S14K150 from EPCOS or equivalent
Fuse:	3.15 A
Max ambient temperature:	-20°C / + 40°C

Electrical data for magnet type 41 42E07K10:

Nominal voltage:	24V DC
Voltage tolerance:	+/- 10%
Nominal current:	1.05A
Rated current:	1.09A
Nominal capacity:	25.3W
Rated output:	Max 26.2W
Test voltage:	1500V
Relative duty cycle:	100%
Varistor:	SIOV-S14K150 from EPCOS or equivalent
Fuse:	3.15 A
Max ambient temperature:	-20°C / + 40°C

Electrical data for magnet type 41 01E09K00:

Nominal voltage:	24V DC
Voltage tolerance:	+/- 10%
Nominal current:	1.33A
Rated current:	1.39A
Nominal capacity:	32W
Rated output:	Max 33.3W
Test voltage:	1500V
Relative duty cycle:	100%
Varistor:	SIOV-S14K150 from EPCOS or equivalent
Fuse:	4 A
Max ambient temperature:	-20°C / + 40°C

Important installation and safety instructions

The magnet system is designed for individual installation. It must not be put into operation if electrical supply lines are damaged, if the magnet housing, armature axis or sheathing show signs of damage, or if you suspect there may be a defect, for example if it is dropped.

The magnet system must be taken out of operation immediately and replaced if the axis is bent or otherwise damaged by external forces. There is a risk that the armature, which is guided in slide bearings, will be blocked and the magnet will therefore no longer be switched.

For all work on the magnet system, observe the national safety and accident prevention regulations, the instructions in this manual and the values specified on the nameplate and information signs.

In the event of possible damage and claims, the general terms and conditions of delivery of Kendrion (Donaueschingen/ Engelswies) GmbH apply.

Startup

The magnet system should only be put into operation by trained and qualified personnel. It may only be connected to the voltage type indicated on the nameplate and the specified voltage value. The magnet system must not be connected when live. Care should be taken to ensure that no conductor insulation is clamped and that the conductor is firmly connected.

To connect external and neutral conductors to the terminal strip within the magnet system, use 2-pole connection wires with a cross-section of max 2.5 mm². The stripping length without crimp end sleeve is max 10 mm, the tightening torque is 0.8 Nm.

Before startup, it is essential to connect a protective conductor to the magnet. Two earthing clamps are provided for this purpose. One is located inside the connection housing, to which a protective conductor with the same conductor cross-section must be connected, as also selected for the connection of the external and neutral conductor to the terminal strip. The protective conductor cross-section must not exceed 2.5 mm². The tightening torque for the clamping bracket screw is 1.5 Nm.

The connection for the potential equalisation conductor is located on the outer side of the magnet. To connect the potential equalisation conductor, use a DIN 46225-A4-6 claw cable lug (AWG 10-12). The claw cable lug must be protected against corrosion, for example made of tin-plated brass or a similar material. The conductor cross-section should be between 4 mm² and 6 mm². Use a suitable tool to connect the claw cable lug to the conductor, ensuring that there is a firm mechanical connection between line and cable lug and mechanical strain relief.

To ensure that the DIN 46225-A4-6 claw cable lug is assembled properly, use the toothed washer, spring washer and cylinder screw included in delivery.

To ensure the specified protection class of IP54, the tightening torque for the cover screws for the connection housing must be 1 Nm. The unit nut for the cable fitting must be tightened to 6.7 Nm.

Maintenance

Any maintenance or repair work required on the magnet system may only be carried out by the manufacturer.

Instructions for Ex zones 1 and 2 / special conditions

As short-circuit protection, each DC linear solenoid / single linear control magnet requires the upstream connection of a fuse as per IEC 60127-2-1 with the fuse values listed in the electrical data or a motor protection switch with short-circuit and thermal quick-release set to the rated current. The fuse can be housed in the associated supply unit or must be connected separately upstream. The fuse rated voltage must be equal to or greater than the specified rated voltage (26.4V) of the DC linear solenoid / single linear control magnet.

The breaking capacity of the fuse link must be equal to or greater than the assumed maximum short-circuit current at the installation location (usually 1500A).

For all DC linear solenoids / single linear control magnets, the maximum direct current ripple is 48%.

Appropriate measures must be in place to ensure that the maximum cut-off overvoltage (80% of test alternating voltage U_{eff} , sinusoidal, frequency 45 to 66 Hz) of 400V is not exceeded.

(For varistor selection, see electrical data).



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The cable fittings may only be used to insert fixed cables and lines.

When using the DC linear solenoids / single linear control magnets, ensure that the permissible ambient temperature range is not exceeded.

Kendrion (Donaueschingen/Engelswies) GmbH

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