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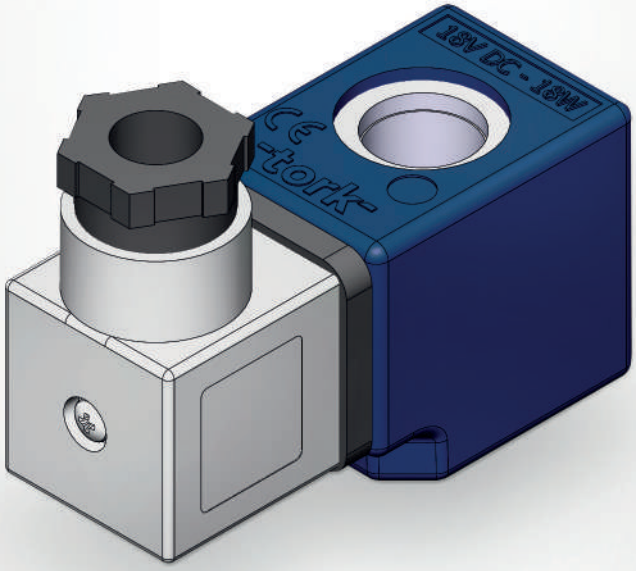
valve & automation



ADAPTIVE PWM SOCKET

www.smstork.com

GENERAL FEATURES:

Ambient Temperature : -20 °C, +60 °C

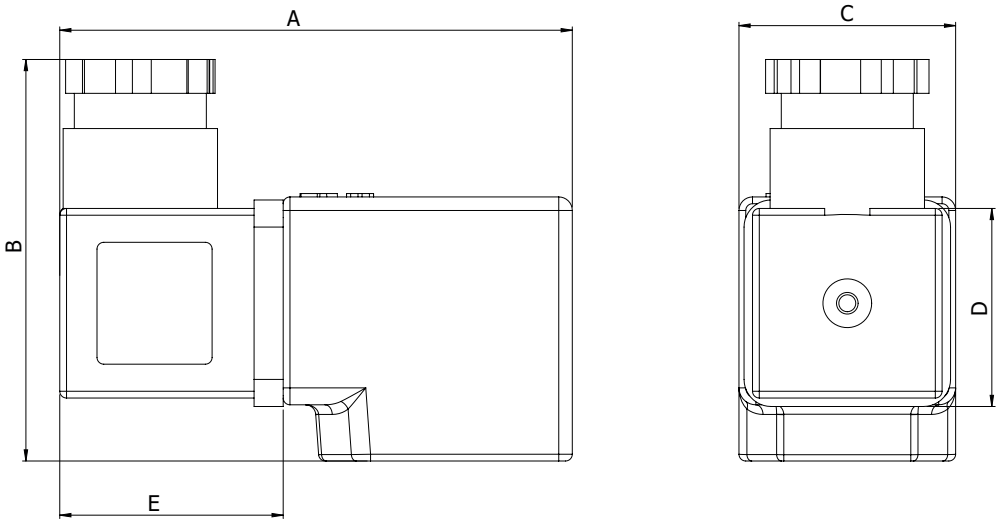
Coil:

Continuous Duty	:	ED %100
Coil Insulation Class	:	HC (200 °C)(IEC 60317 - 38)
Coil Coating	:	Reinforced Fiberglass
Coil	:	18 Volt DC 18 Watt, on request; in different power ratings

Socket:

Input Voltage	:	18-36 Volt DC
Maximum Current	:	3 Amper
Power	:	Between 11% and 89% of coil power
PWM Frequency	:	2 KHz
Electric Connection	:	2 x 0.50 mm cable
Socket Features	:	Form A, 18mm pin spacing (ISO 4400, EN 175301-803, and DIN 43650A standards)
Socket Connection	:	M16 x 1.5mm
Proteciton Class	:	IP65 (ISO 60529), on rquest; IP68

Dimensions (mm)				
A	B	C	D	E
78	57	28	28	32



Which Solenoid Coils Can It Be Used With PWM Socket?

The PWM socket operates at voltages between 18 – 36 VDC. It regulates variable input voltage down to 18 Volts. This PWM socket is designed to be used specifically with 18 Volt DC coils.

What Are the Advantages of the PWM Socket?

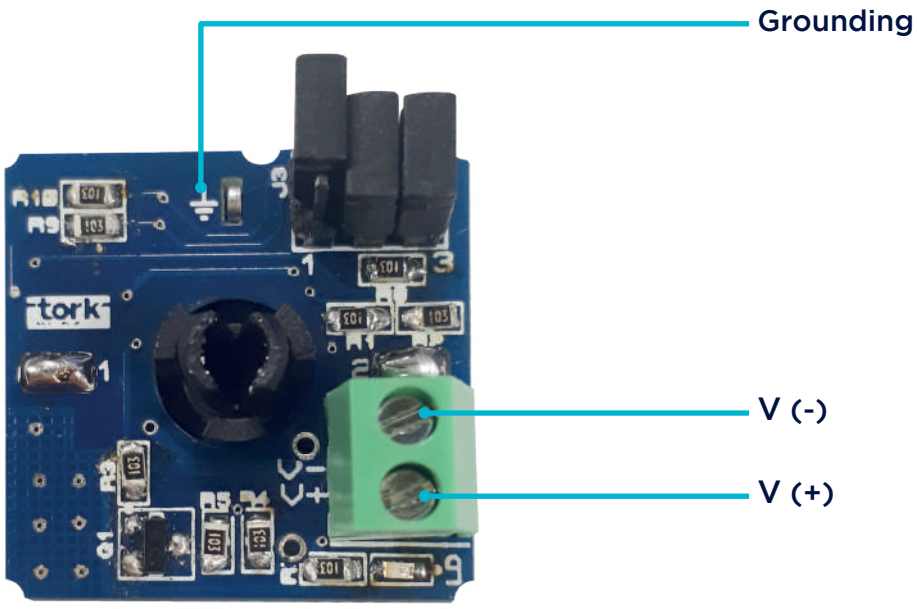
Using the PWM (Pulse Width Modulation) socket regulates the output voltage, reducing excess energy consumption. Consequently, energy wasted as heat is minimized, preventing coil overheating issues. Naturally, coils that generate less heat have a longer lifespan. Depending on the duty cycle, the power consumption of the coil can be reduced by up to 11%. However, when making these adjustments, the holding force of the solenoid must be taken into account.

How Is Pulse Width Modulation Applied in Solenoid Valves?

To save energy loss in coils operating with direct current, the voltage level can be adjusted using Pulse Width Modulation (PWM) after the magnetic force required to hold the core is provided. Electronic circuits have been developed to achieve this. With the feature of having a delay time in the socket, the coil is given time to pull the core. Once the core is pulled, less energy is needed to keep it in this position. The PWM socket ensures that just enough power is delivered to keep the core in the raised position. This leads to energy savings.

PROGRAM	1	2	3	4	5	6	7	8
SW1	0	0	0	0	1	1	1	1
SW2	0	0	1	1	0	0	1	1
SW3	0	1	0	1	0	1	0	1
PULSE CYCLE (ON:OFF)	1:8	2:7	3:6	4:5	5:4	6:3	7:2	8:1
DUTY RATIO	11%	22%	33%	44%	56%	67%	78%	89%

ELECTRICAL CONNECTION:



LABEL INFORMATION: