

HW48

Safeguards Honeywell STT350 transmitters against induced surges and transients from field cabling

- **Built-in reliability — solid state**
- **Simple installation and wiring — customised mounting**
- **Retrofittable — easily fitted to transmitters in existing installations**
- **Honeywell tested and approved for use with STT350 transmitters**
- **Analogue and Smart meter compatible**
- **10 year product warranty**



The HW48 is a unique device, designed to give comprehensive surge protection to any Honeywell STT350 intelligent transmitter without incurring penalties of additional wiring, conduit modifications or other expensive extras. Nor are key transmitter features such as smart communications compromised. The surge protection network consists of high-power solid-state electronics and a gas-filled discharge tube capable of diverting impulses of over 10kA. The unit fits onto the side of the STT350 transmitter inside the standard 'flameproof' (Ex d) enclosure housing.

Installation is simple - the HW48 device is mounted by the side of the transmitter, where it connects directly to the transmitter's input terminals. Field wiring is then connected into the HW48's own terminals.

Earthing for any surge protection device is very important. In this context, 'earth' is the local casing of the transmitter- no separate earth connection or ground stake is needed. The HW48 makes sure that transmitter electronics are never exposed to damaging transients between lines or between lines and casing/earth. Any surge current appearing as a series mode or common mode transient will be converted into a common-mode voltage. The transmitter electronics will be elevated to some higher voltage level and then float down again automatically without damage to the transmitter. For optimum protection, surge protection devices should also be fitted at the control panel.

Hazardous-area applications are unaffected- the Ex d certification of the transmitter covers use in Zone 1 hazardous areas, while the HW48 is rated as 'simple apparatus' for intrinsically safe applications. The device can also, of course, be used with transmitters for which hazardous-area approval is not needed.

Analogue and Smart local current meters can be wired into the transmitter and will benefit from the protection provided by the HW48.

Existing installations can be upgraded easily by retrofitting HW48 units as the installation process does not call for modifications to plant wiring or conduit runs and needs no external connection boxes.

SPECIFICATION

All figures typical at 77°F (25°C) unless otherwise stated

Maximum surge current

- 10kA peak current (8/20µs waveform)
- 10kV peak voltage (1.2/50µs waveform)

Leakage current

- < 2µA at 32Vdc
- < 10µA at maximum working voltage, over full temperature range

Working voltage

- 48V dc maximum

Signal level

- 4/20mA dc plus DE communications

Series resistance

- 18 ohms/line (36 ohms loop)

Ambient temperature limits

- 40°F to +176°F
- (-40°C to +80°C) working
- 40°F to +212°F
- (-40°C to +100°C) storage

Humidity

- 5% to 95% RH (non-condensing)

Electrical connections

- 3-way terminal block (+ve, E, -ve)
- 1.5mm² maximum Flying lead earth connection

Weight

- 1.7 oz (48g) excluding transmitter housing

Dimensions

- See figure 1

Electrical safety (for hazardous-area use)

- Intrinsic safety: Non-energy storing apparatus (<1.2V, <0.1A, <20µJ, <25mW), Ceq=0, Leq=0; the device can be connected into any IS loop with input power ≤ 2W.
- Flameproof/Explosionproof: No effect on existing Ex d approval when fitted into an STT350 transmitter in an approved housing.

INSTALLATION

The HW48 mounts onto the side of a Honeywell STT350 transmitter inside the protective housing. The device is fitted with spade-tag connectors for attachment to transmitter terminals 6 and 8 (see figure 2). If local current metering is being used then the meter is connected to the transmitter terminals as detailed in the meter installation manual. If local metering is not being used, then a link is provided to connect transmitter terminals 5 and 8. The HW48 surge protection device should be earthed to the screw securing the transmitter to the housing by the green/yellow flying lead. The field wiring is connected directly to the 3-way terminal block on the HW48 printed circuit board

ORDERING INFORMATION

HW48

(Process transmitter surge protection device for Honeywell STT350 transmitters)

