

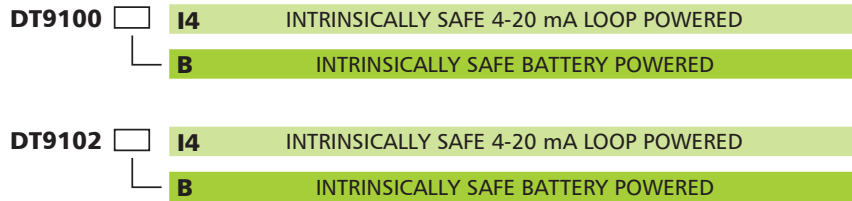
Intrinsically Safe Digital Clocks

Product features

- HH : MM display
- 25.4 mm character height
- ±1 minute accuracy per year
- Local or remote synchronisation
- 2 isolated alarm output
- Easy on-site configuration
- Battery powered
or 4-20 mA loop powered versions
- Intrinsically safe (zone 1, 2)
- DT9100: IP 65 protected
DT9102: IP 65 (front)
IP 30 (rear) protected



Type designation



The **DT9100 ... / DT9102 ... Intrinsically Safe Digital Clock** will accurately display local time in the hazardous area. The clock incorporate a very high accuracy crystal oscillator that ensures less than 1 minute error per year (typically) at ambient temperature between 0-40 °C. Large 4 digit, 25.4 mm height liquid crystal display make the time visible at a distance. Three different synchronisations mode are selectable in the user menu:

- Remote synchronisation through an intrinsically safe digital input at **DT9100 B / DT9102 B** versions.
- Remote synchronisation through control the 4-20 mA current loop at **DT9100 I4 / DT9102 I4** versions: 4-10 mA current range is the normal operation mode and 14-20 mA current range is the synchronisation mode.
- Local synchronisation through the front panel push buttons.

The clocks has 2 isolated digital outputs, which can be used for alarm signalling.

The functional parameters can be set by the front panel push-buttons, through a simple menu system: time setting, synchronisation modes, time display mode, alarm output setting, etc. The settings are protected by a two-level password against unauthorised manipulation.

The instruments has two power supply versions: battery powered (**DT9100 B / DT9102 B**) and intrinsically safe 4-20 mA loop powered (**DT9100 I4 / DT9102 I4**).

The **DT9100 ...** is housed in a moulded polycarbonate case which is dust-tight and houseproof to IP 65 to allow for installation in the field or on the control panel. The **DT9102 ...** is housed in a DIN standard 144 × 72 mm ABS case with IP 65 protection from the front and IP 30 protection from the back side, for installation on the control panel.



The internal intrinsically safe battery will power the **DT9100 B / DT9102 B** clock continuously for at least three years. Replacement battery units are available (BAT). At 20 °C replacement batteries only lose about one percent of their charge each year, so it is practical to stock a spare on-site. By replacing the battery or by switch off the 4-20 mA loop the clock save the time for 60 minutes.

Safety data:

The connection terminals of the supply voltages are isolated from each other, the isolation is in compliance with the standard EN 61010-1, taking into consideration the following:

Pollution level: 2
 Measurement category: II

Intrinsic safety data:

Certificate: BKI 18 ATEX 0007 X
 Protection marking: DT9100 B / DT9102 B:  II (1) 2G Ex ia IIC T5 (-20 °C < Ta < +60 °C)
 DT9100 I4 / DT9102 I4:  II (1) 2G Ex ia IIC T6 (-20 °C < Ta < +60 °C)

Display:

Display: 4 digit LCD, 25.4 mm character height
 Time display: HH : MM
 Range: 00:00 - 23:59
 Error: ±1 min. / year @ 0 °C < Ta < 40 °C (typically)
 Display refreshing time: 1 sec.

Output parameters:

Output: 2 digital outputs
 Output type: optically isolated passive switching transistor
 Load rating: 10 V, 16 mA max. (Ex safety data!)

Manual control:

Manual control: 3 push-buttons on the front cover

Power supply:

Power supply: Intrinsically Safe 4-20 mA loop-powered (DT9100 I4 / DT9102 I4)
 Intrinsically Safe 4.5 V battery pack (DT9100 B / DT9102 B)
 Maximum back-up time: 60 min.

Ambient conditions:

Operating temperature range: -20 - +60 °C
 Relative humidity: 90% (max., non-condensing)
 Place of installation: potentially explosive area (zone 1, zone 2), safe area

Electromagnetic compatibility (EMC) accordance with the standard EN 61326

Immunity: industrial area
 Noise emission: Group 1, Class B

General data:

Housing:	DT9100: moulded polycarbonate case, installable as a field or panel instrument	DT9102: DIN standard ABS case, installable as a panel instrument
Connection:	DT9100: IP 65 cable entry, push-in direct connections	DT9102: push-in direct connections
Connection cable:	0.25-1.5 mm ²	0.25-1.5 mm ²
Dimensions:	DT9100 field instrument: 167 × 111 × 71 mm (width × height × depth) DT9100 panel instrument: 167 × 87 × 95 mm (width × height × depth)	DT9102: 144 × 72 × 73 mm (width × height × depth)
Weight:	0.5 kg	0.4 kg
Protection:	IP 65	IP 65 (front), IP 30 (rear)

Detailed information see in operating instructions. The Manufacturer maintains the right to change the technical data!