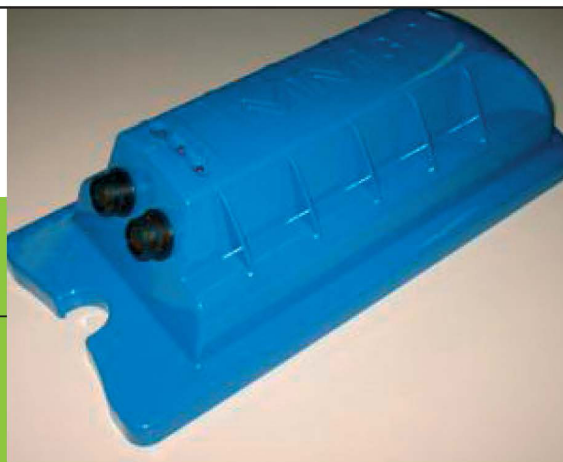


Product Data:

MM3PEX

ATEX compliant GSM/GPRS -Based
Low Power RTU

A version of the popular Battery MM3P with all the same powerful features such as long battery life and rich RTU capabilities, this version is intrinsically safe for use in hazardous environments.



Key functionality:

■ Real time monitoring

Avoiding the need for site visits to extract data.

■ Intrinsically safe

The MM3PEX is certified intrinsically safe maximising its usage in hazardous environments when compared with explosion proof and other ATEX compliant solutions.

■ GSM & GPRS communications

Guaranteeing delivery of data, GSM or GPRS data calls are preferred to non-deterministic SMS messaging.

■ Extended battery life

MetaSphere's unique combination of battery life and regime administration extends the period between site visits. With the standard battery, a 15 minute monitoring regime and 24 hour dial in, the expected battery life is 3-5 years.

■ Safest possible battery technology

Using advanced alkaline battery technology has many safety benefits over other technologies such as lithium.

■ IP68 compliant

The standard enclosure is IP68 compliant down to a depth of 4 metres for 4 days.

■ Easy Handling

Elegant engineering has produced a light unit (2.0 kg including battery) with outstanding functionality with a footprint of just 300mm x 130mm x 80mm.

An intrinsically safe version of the popular battery MM3P, the MM3PEX is a low cost fit-and-forget unit for use in harsh and hazardous environments in remote locations where ATEX compliance (to zone 0) is required. The unit is completely self-contained and exploits the latest developments in low power technology, deriving all the power it needs (including sensor power, if required) from an inexpensive field-replaceable alkaline battery pack. This, together with an integral GSM/GPRS modem, ensures a long service life with low infrastructure costs.

Although advanced, the design exploits only mature mainstream technologies, thus minimising cost whilst at the same time improving overall reliability and ensuring a long product life.



HARDWARE FEATURES

- **Digital inputs** – 3 with counter support up to 1 KHz (1:1 mark space ratio)
- **Analogue inputs** – 1 external, configurable as 0-2V, 0-5V, 0-20mA or 4-20mA. 12 bit resolution (0-4095)
- **Internal diagnostics** – 3 internal analogue inputs to measure Battery voltage (0-10v, 10 bit resolution), Internal temperature (-10 to +55°C, accurate to 3°C) and Loop supply voltage (0-30v, 10 bit resolution)

An optional 24V programmable loop supply derived from the internal battery can also be provided for powering plant interfaces such as relay contacts or 4-20mA sensor loops.

The MM3PEX has 5 12Kbytes solid-state memory for local storage of trend and alert data, equivalent to approx. 200K samples (for example, approx. 4 months storage at a sampling rate of 1 analogue value per minute).

FIRMWARE FEATURES

- **Input Processing** – Independently configurable processing of all input sources, including calibration and filtering of analogue sensors, inversion and debounce of digital sensors, configurable counter behaviour, flow rate calculations etc
- **Output Processing** – Independently configurable processing of all outputs, including scaling, inversion, programmable pulse widths etc
- **Trending** – Independently configurable periodic and event based recording of any data source in any combination.
- **Alerts** – Independently configurable alarm and event detection, timestamping and recording on any input source with extensive alarm reduction functionality, including time and level deadbands.
- **Dialback** – Configured with up to eight phone numbers, the RTU can initiate a call out to the Data Centre in the event of an alarm condition being detected and, if required, at pre-defined configurable intervals (i.e. every 24 hours). Includes support for up to eight phone numbers as standard. Blacklist prevention measures minimise nuisance calls in accordance with any regulations laid down by the appropriate Telecommunications Authority.
- **Configuration** – Download and non-volatile storage of static configuration data, including communications settings, modem controls, dialback phone numbers, alarm and event thresholds, time deadbands etc

APPROVALS

The product is designed to hold a CE declaration of conformity in accordance with Council Directives 89/36/EEC (Electromagnetic compatibility), 94/9/EC (ATEX) and 73/23/EEC Low voltage directive (LVD). The product complies with the following standards:

Environmental to BS EN 60068:

- Operating temp.: -10 to +55°C
- Humidity: 5% to 95% non-condensing
- Vibration: (sinusoidal), 10-150Hz, 4g Amp., 5 sweeps in 3 orthogonal axis
- Shock: (half sine), Acc. 15g, Pulse time 11ms, 3*6 shocks

Ingress protection:

BS EN 60529 IP68, 4 metres for 4 days

ATEX to BS EN 50014 and BS EN 50020

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EMC:

- EN55011:1991 Radiated emissions,
- EN61131-2: 1994 (+A11:1996 + A12:2000), EN61000-3-2:1995 Electrostatic discharges (4kV contact, 8kV air)
- EN61000-4-3:1995 Radiated fields (26-1000MHz, 10V/m, AM)
- EN61000-4-4:1995 Fast transients/bursts (0.25kV)

Safety:

- EN-61010-1 Safety requirement for electrical equipment for measurement and control
- EN-60950 Safety of information technology equipment

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