SA380TX

By MPEC Technology

Trackside XML interface module

Standard BR930/Q-style Relay Mounting

Integrated UPS

Ethernet, GSM/GPRS, RS485 Comms

Up to 8 Analogue / 26 Digital Inputs

Large 2GB Storage

Touchscreen Diagnostics & Interrogation

Create Networks with the SA380TX-L

The SA380TX is designed to connect any type of trackside sensor to server-based supervisory and diagnostics systems.

- Track circuits
- Points condition
- Rail temperature
- Cut track section monitoring
- Auto signal / SFI investigation
- Insulation monitoring

Easy to configure software allows setup of the unit as any combination of the types above. For instance if a location case contains a track circuit and a set of points, the SA380TX can be set to monitor them both simultaneously. The unit is preloaded with profiles that automatically connect over GPRS or GSM and talk standard XML/SOAP across the link.

The unit is suitable for mounting in either relay rooms or location cases. Installation is straightforward with its form factor designed specifically to fit in a single BR930/Q-style relay position.

Standard pitch mounting bosses allow the unit to be fixed in position on a relay rack with no additional brackets or hardware. The power supply and UPS are integrated. Due to the unique design of the power supply the unit has been accepted for direct connection to the BX110 signalling supply in the UK. This is the first datalogger to gain acceptance for use without an isolating transformer. The benefits of this are significant; mounting and wiring an isolating transformer can add between 20 - 50% to the installation time.

The unit provides power output for current clamps and other 4-20mA sensing devices thus again saving on external transformer rectifier hardware, which is difficult and time consuming to mount in location cases.

The digital and analogue inputs can be connected to a wide variety of sensors, including voltage, current, temperature sensors and spare relay contacts. All inputs are isolated to a minimum of 1,000V DC. To connect to other microprocessor based equipment such as the latest types of point machines, and Bender® insulation monitoring devices a serial interface is provided.

All data is buffered internally in a large Flash memory so it is immune to power outages and communications failures. In addition, data can be stored on an external USB memory key which can be read by any computer with a USB socket.

The SA380TX provides a simple, cost-effective solution to integrate the infrastructure of today with the remote monitoring systems of the future.

Mounts on standard location case relay bars

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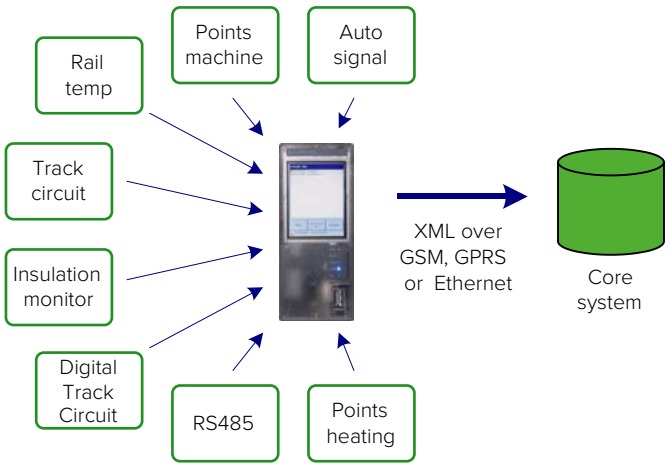
Master-slave network

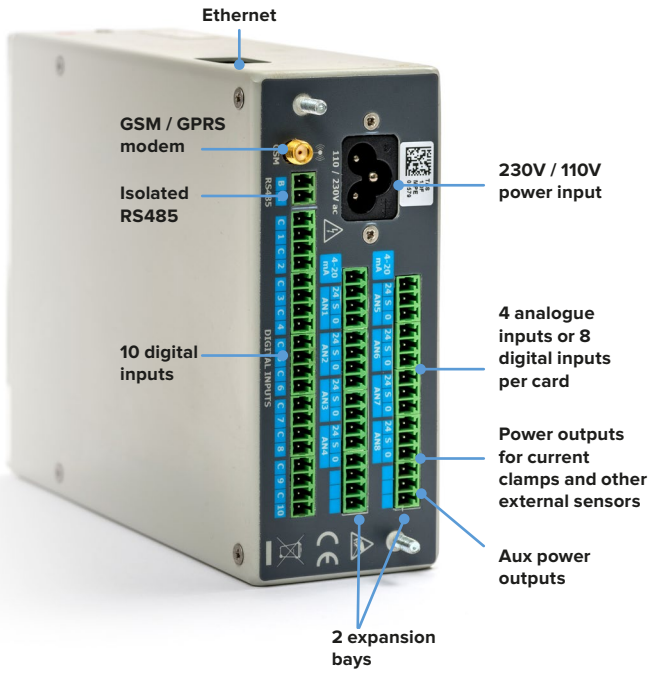
Up to 7 SA380TX-L slave units can be added, expanding the capability to up to 78 analogue or 166 digital inputs in a single system (depending on which type of cards are installed in the slaves). The slaves can be up to 1,200m from the master. The system behaves as a single logger, so conditions can be set up which trigger on (for example) the digital inputs of one slave, and log the analogue inputs of another.

The networked system can bring significant savings in equipment costs as the slaves are approximately 40% cheaper than master units. In addition there may be communications cost savings as all comms to the central server is routed through the one master.

System data flow



Rear panel layout



Technical specifications

General	
Fixings	To fit standard BR930/ Q style relay rack
Size	135 x 56 x 175mm - 1 relay position
IP rating	IP40
Temperature range	-25°C - +70°C
Digital inputs	10, 18 or 26
Type	Volt-free relay contacts
Isolation to earth	10MOhm at 1,000V DC min
Max differential DC voltage	55V

Analogue inputs	0, 4 or 8
Range	4-20mA / 0-30V
Resolution	10 bit
Sampling rate	500Hz / RMS 5 samples
Isolation to earth	10MOhm at 1,000V DC min

Power supply	90-264Vac
Isolation to earth	10MOhm at 1,000V DC min
Battery backup	Up to 1 hour
External PSU outputs	24V 2W per analogue channel
	5V, 12V, 15V aux supplies optional

Processor	520MHz ARM
Comms	Isolated RS485
	Ethernet
	GSM /GPRS modem
Watchdog	Hardware
LEDs	5 status LEDs
Screen	240x320 resistive touch

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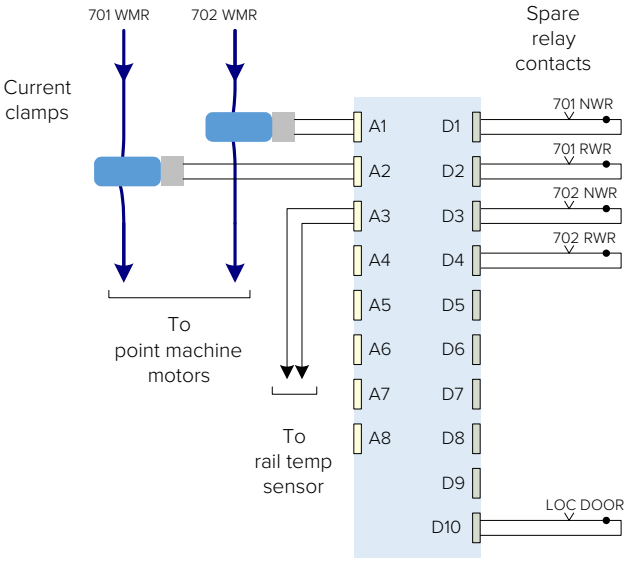
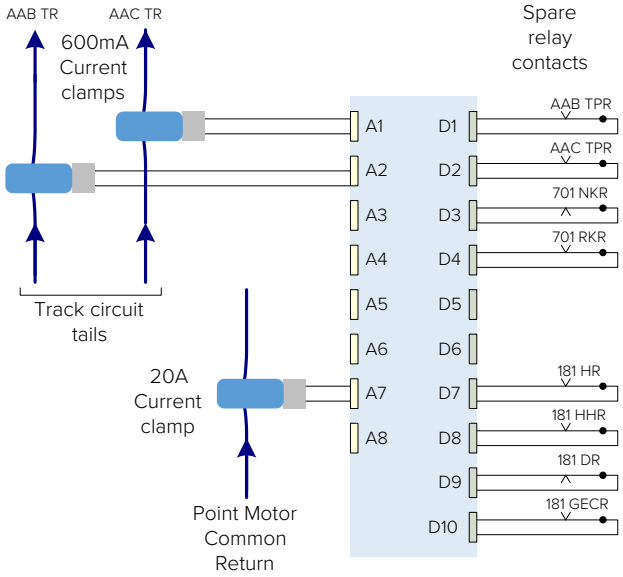
Example monitoring connections

Ten digital inputs are provided in the base unit. There are two expansion slots; these can be filled with either analogue or digital cards or a mixture of the two. Analogue cards have four inputs each and digital cards have eight. For example, an SA380TX with one digital card and one analogue card would have a total of 18 digital and 4 analogue inputs.



Monitoring two track circuits, one point machine and one 4-aspect signal



For more information please contact:
MPEC Technology Ltd, 6 Pinnacle Way
Pride Park, Derby, DE24 8ZS

Tel: 01332 363 979
Email: enquiries@mpec.co.uk
Web: www.mpec.co.uk