

Building Management System and Load Control

BMSRTU Building Management System Remote Terminal Unit.

Manage your building's electricity consumption remotely, intelligently, through the web, and see the results within a day.

The Building Management System Remote Terminal Unit:



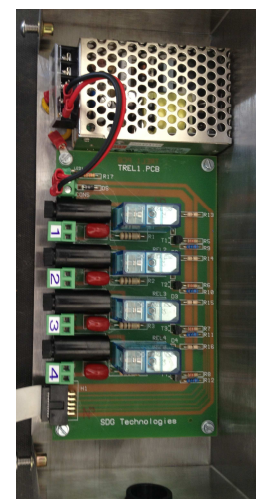
- Switch off loads according to a load schedule, for example non-essential lights and air-conditioning after-hours. One BMSRTU manages 4 load contactors.
- Simple manual schedule override button for after-hours work, stock taking or shop fitting.
- Pre-programmable Load Schedule Timer function is restored automatically after a manual schedule override.
- The manual override can be cancelled at any time with a second button, if the work is finished before the bypass timer has expired.
- For each load contactor, the BMSRTU has a timer functionality that automatically switches the loads according to a 7 day load schedule.
- The BMSRTU integrates seamlessly with the Plug and Play Scada smart metering system with appropriate communication devices.
- PnP Scada makes it possible to manage the load scheduling remotely using criteria like time zones and holidays.
- The load schedule and bypass times can also be set up locally and/or remotely through the Human Machine Interface (HMI) for longer working hours or scheduled maintenance work.
- Time spent in bypass mode is logged for each individual load.
- Participation in the new ESKOM Demand Response Rewards Program becomes possible.
- On average a saving of 1,8 tonne CO₂ emissions were achieved over a period of 30 days per one BMSRTU. Note: Calculated across 35 units installed in 11 shops.

Overview

The SDG BMSRTU forms part of the SDG Technologies range of power metering, control and communication products.

When a store attendant pushes the Bypass button, the timers are bypassed for a pre-programmed time, enabling the store personnel to carry out after-hour work. Unlike manual bypass switches, the BMSTRU cannot be left in the bypass position permanently, protecting the investment in the installed timer system, enabling huge savings in electricity to be realized.

The BMSRTU can communicate remotely to any Modbus Master software, and is specifically designed to communicate to the Plug and Play Scada remote metering software system, enabling remote alteration of the load scheduling program. Apart from changing the load schedule according to sales and maintenance schedules, public holidays and time of year, this opens up the possibility to participate in the Demand Response Rewards Programme of ESKOM and reducing your carbon footprint.



Specifications

Electrical

4 outputs are provided to drive contactor coils or other control inputs.

Type of switch	Electromechanical Relay, Normally Open potential free contact
Number of relays.....	4
Relay Contact rating.....	10A
Fuses	Each circuit protected by an individual easily replaceable 10A fuse
Snubbers	Each relay contact protected against long term wear with a 100R/100nF (630V) snubber

Serial interface

Two serial interfaces are provided, an RS232 and a RS485 output. Both use identical protocol and framing. Any one may be used depending on ease of application at a specific site.

Protocol.....	MODBUS ASCII/RTU
Data Rates:	9600bps
Characters:.....	8 data bits
Parity.....	none
Stop Bits	1

RS232 output

This is a modified Special RS232 output compatible with any RS232 device, but modified so that it can be multidropped with Elster Electrical meters with a simple RJ12 splitter. This will ease the installation of the BMSRTU communication where there are already Elster Electrical meters close by communicating with Plug and Play Scada

Maximum number of (Special) RS232 devices.....	10
(Up to 100 special RS232 devices may be multidropped in the same room using the SDG EBUF driver.)	

RS485 output

Maximum number of RS485 devices	32
Maximum RS485 network size	300nF at 9600 (6km of CAT5) / 25nF at 115200 (500m of CAT5)
Network bias and termination resistors.....	Built into the BMSRTU

Indicators

Power (green)	100VAC - 240VAC connected to BMSRTU
Heartbeat (green)	Integrated program running
Timers Bypassed (green)	Activated locally / remote or scheduled
Load 1 – 4 on (green)	Load 1-4 activated by bypass or schedule
Local Comms (red)	DB9 Rx and Tx indicator
Remote (red)	RJ12 and RS485 Rx and Tx indicator

Programming

Pre-programmed bypass time.....	4h
Individual schedules (max).....	4
Switch modes per schedule per day.....	2
Maximum days per schedule	7
Logs per contactor (max)	24

Power supply

Voltage input.....	100-250VAC
Consumption	<6VA

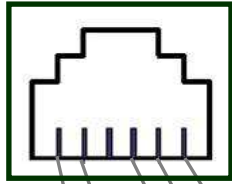
Physical Characteristics

Designed for mounting on the side (or top) of existing electrical panel

Footprint on panel side	370mmx140mm
Protruding from panel	100mm

Pin-out of RS232 connector

The BMSRTU RS232 connector is a RJ12 connector. The pin-out is such that a simple 1 to 1 flat cable can be constructed to connect the BMSRTU RS232 port. The Connector can be used to connect a Kocos or BOL Modem directly to the BMSRTU. The pin-out of the RJ12 connector is as follows:



Pin no	BMSRTU
1	Rx, connected to pin 3
2	Tx, transmit data
3	Rx, receive data
4	NC (Not connected)
5	0V
6	12V DC