RA003 Programmable Text Remote Alarm Annunciator (PTRAU)

Product Description

This is a flush, surface or panel mounted unit. The RA003 can interface with multiple IPS and UPS via a multi-drop RS485 connection and may be used when more than one IPS or UPS supply a single operating room or high care ward. The RA003 has the additional advantages of showing the user the exact location of a fault (i.e. "Bed 3, Sockets 5 to 10") and detailed UPS alarms. The unit also has a separate RS232/Modbus output for a BMS interface.

Function

If any of the pre-set values are breached the screen turns yellow and a buzzer is sounded, which can be muted. The buzzer can re-sound every 20 minutes. Information and features include:

- 8 line text display with alarm logging of date and time for each event
- IPS insulation/ load/ temperature information
- EDS alarms – location of circuit with insulation fault
- UPS alarms – mains fail
- Bypass/ UPS on/ battery fault
- Modbus output to BMS allowing all information within the IPS/UPS system to be mapped into the BMS

The alarms on the display will not be reset until the fault has been cleared. A second fault will reactivate the audible and visual alarm.

RA003 DIMENSIONS (mm)	
Flush and Surface Mounted	250 x 170 x 70
Panel Mounted	104 x 121 x 35

Features and Benefits

Event logging of alarms includes date and time of each event (activated, acknowledged and cleared). This removes the guesswork of when a fault occurred or when it was cleared, so improves maintenance and the ability to locate faults.

A description of the circuit containing the earth-fault can be displayed i.e. "Bed 3, Sockets 5 to 10". Clinical Staff can see at a glance where the fault is without the need to go to the IPS panel to view the LED circuit indicators.

Specific UPS descriptive change messages alarms can be displayed i.e. "Mains Fail", "Bypass", "UPS Not Running", "Battery Fault". Assists with UPS fault-finding and helps to reduce down-time.

A Modbus output to the BMS allowing all information within the Starkstrom IPS/UPS system can be mapped into the BMS. Benefits: this removes the risk of clinical staff ignoring alarms and allows the estate maintenance to determine nature of a fault before they enter the operating room. The BMS can be used to keep historical records of loadings, insulation levels and faults, therefore assisting in maintenance.

BMS Modbus Slave Output

- Typical Slave Address:01
- Baud/Parity/Data/Stop/Comms: 9600/No/8/1/RS232
- All registers are 16 bit
- There are 24 registers in total

Register 1 - 16 contains the location of the insulation fault, i.e. a decimal value of 19 indicates that the insulation fault is on Isolated Power System 2, circuit 3 (19/16 gives an "argument" of 2 and a "modulus" of 3).

The above calculation is based on the assumption of each IPS containing 16 outgoing ways.

Register 17 - 24 contains earth fault location information for systems 1-16

BIT			INSULATION(K Ω)
2	1	0	
0	0	0	<50
0	0	1	50
0	1	0	250
0	1	1	450
1	0	0	650
1	0	1	850
1	1	0	1000
1	1	1	Infinite

BIT				LOAD (A)
6	5	4	3	
0	0	0	0	>20% Nominal
0	0	0	1	>40% Nominal
0	0	1	0	>50% Nominal
0	0	1	1	>60% Nominal
0	1	0	0	>70% Nominal
0	1	0	1	>80% Nominal
0	1	1	0	>90% Nominal
0	1	1	1	>100% Nominal
1	0	0	0	<20% Nominal

IPS ALARMS		
Bit 7	0	Earth / Line Present (OK)
	1	Earth / Line Missing
Bit 8	0	Insulation level above alarm point (OK)
	1	Insulation level below alarm point (Alarm)
Bit 9	0	Load within limits (OK)
	1	Load over limit (Alarm)
Bit 10	0	Temperature below limit (OK)
	1	Temperature above limit (Alarm)

UPS ALARMS		
Bit 11	0	Earth / Line Present (OK)
	1	Earth / Line Missing
Bit 12	0	Insulation level above alarm point (OK)
	1	Insulation level below alarm point (Alarm)
Bit 13	0	Load within limits (OK)
	1	Load over limit (Alarm)
Bit 14	0	Temperature below limit (OK)
	1	Temperature above limit (Alarm)

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