Relcom Inc.

FOUNDATION

CE

Redundant power supply for use with Honeywell Experion "Series C" 4-link FIM

F860

8-segment redundant fieldbus power IOTA

- **redundant power for 8 fieldbus segments**
- **"Series C" I/O compatible**
- **high-density, compact design**
- **11.6 inch IOTA format**
- **highest levels of availability**
- **fully isolated**
- **low power dissipation**
- **remote-alarm facility**
- **on-line diagnostics option**

The F860 is designed to provide redundant power for eight FOUNDATION fieldbus™ H1 segments when used with Honeywell Experion "Series C" Fieldbus Interface Modules (FIMs). The module carrier complies with the mechanical and electrical requirements of 11.6 inch I/O Termination Assemblies (IOTAs), for direct fitting into Honeywell mounting channel. Power for the fieldbus segments is provided by two F801 power modules operating in a redundant configuration. Failure alarms, galvanic isolation, power conditioning and segment termination are incorporated into each F801 module. In simplex applications, a single F801 module may be used. Termination of the fieldbus segments is automatically maintained when single or redundant F801 modules are fitted.

For extreme reliability, the F860 IOTA is passive and only provides interconnections between the power modules and the external connections.

The IOTA has two multi-pin connectors, each of which is connected to a FIM IOTA by mean of a standard system cable. Different lengths are available, to accommodate mounting of the F860 and its respective FIM IOTAs in various locations within a Series C I/O cabinet. Field wiring is connected at the FIM IOTA.

Each F801 module provides galvanic isolation between the 24V DC input power and the fieldbus segments, as recommended by the IEC61158-2 fieldbus standard and the Fieldbus Foundation™ FF-831 validation test for power conditioners. There is galvanic isolation between the fieldbus segments, thereby preventing segment failure in the event of ground faults in the field wiring.

Each F801 module has indicator LEDs to show both its status and that of the eight segments under power. In normal operation, each green 'Segment' LED is lit, showing that the segment is powered. If a segment is shorted, this LED is extinguished, and the red 'Alarm' LED is lit. An alarm is also triggered by faults inside the F801 modules, or by the loss of 24V DC power to either module. In the alarm condition, fault inputs for segments 1–8 are alerted automatically via dedicated signal lines in the interconnecting cable to the FIM IOTAs. Separate digital input modules are not needed to detect alarms.

A separate physical layer diagnostics module may be installed onto the IOTA, to automatically collect and distribute additional diagnostic information on each of the eight fieldbus segments.

Power for the IOTA is taken via mounting screws from 24V DC busbars that are embedded in the Series C mounting channel. Alternatively, for installations in which the internal Series C power supplies are unable to provide sufficient current capacity, an external 24V DC supply may be connected to the IOTA via a two-part pluggable connector. Two separate power trains are derived on the IOTA, each protected by a replaceable fuse, to provide reliable bulk power to the F801 power modules.

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Dec 2005

SPECIFICATION

Location of equipment
See Approvals

OUTPUT
Number of channels
Eight
Voltage
21.5V DC minimum
24.0V DC maximum
Design current
0 to 350mA per segment
Current limit
> 370mA
Minimum load
No load
Isolation
Fieldbus to power supply: 250V AC rms withstand
Fieldbus to fieldbus: 250V AC rms withstand

INPUT
Input voltage
19.2 - 30.0 V DC
Current consumption
(8 segments each with 350mA output load redundant operation)
3.5A @ 24V DC input
Power dissipation
(8 segments each with 350mA output load redundant operation)
2.75W / segment

ALARMS
Signalled via system cable to FIM IOTAs
Alarm threshold
Segment Output <19V DC

MECHANICAL
Mounting method
Standard Honeywell 'Series C' I/O mounting channel
Power Input Connections
Via mounting screws onto busbar

ELECTRICAL CONNECTIONS
External power supply
Pluggable rising cage-clamp screw terminals
Conductor size: 0.14 to 2.5 mm^2
FIM IOTAs
16-way multipin connectors using FCAB-0x cable (2 off required)

ENVIRONMENTAL
Ambient temperature

Operating	—40°C to +65°C (See note)
Storage	—40°C to +85°C

Note: This temperature range applies only when the IOTA is mounted vertically on a vertical surface.
Ingress protection
IP20 to BS EN60529 (Additional protection by means of enclosure.)

ELECTRICAL
EMC Compliance
To EN61326:1998 Electrical equiment for measurement, control and laboratory use - EMC requirements

PHYSICAL NETWORKS

IEC61158-2
ISA-S50.02 Part 2-1992
FOUNDATION fieldbus™ H1
Profibus PA

ORDERING INFORMATION

COMPONENTS AND ACCESSORIES

Part No	Description
F860-CA	IOTA, unpopulated
F801	8-segment power module
FCAB-05	IOTA power cable, 30cm
FCAB-06	IOTA power cable, 1m
FCAB-07	IOTA power cable, 2m
FCAB-08	IOTA power cable, 4m
F860	F860 system comprising two F801 modules and an F860-CA IOTA

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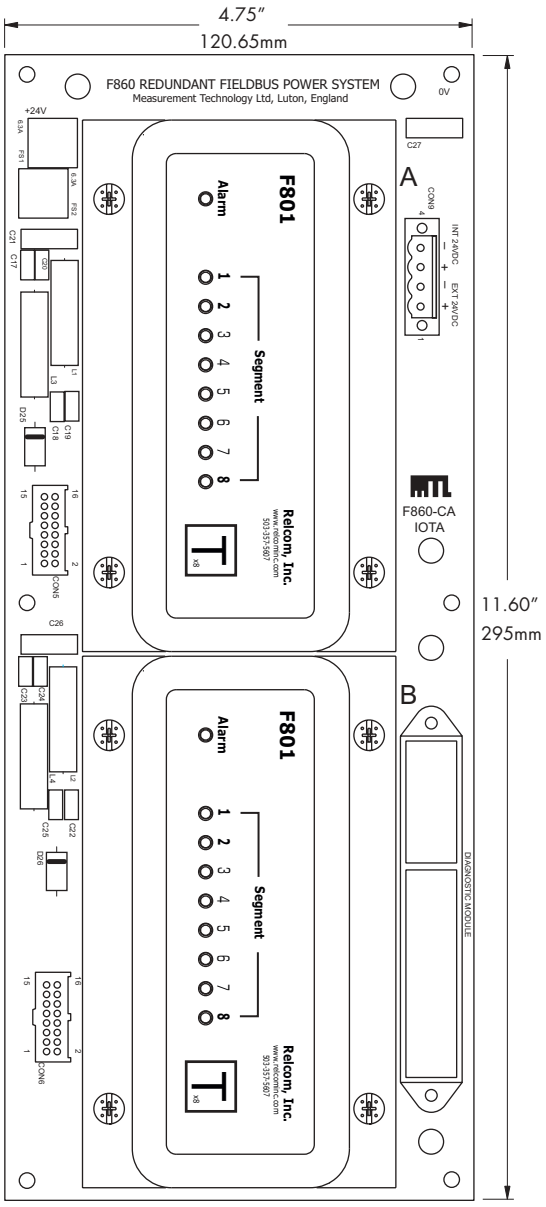
Dimensions



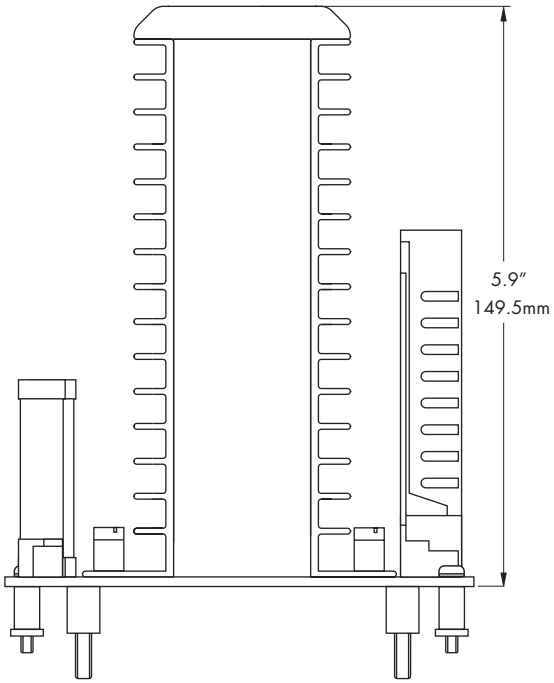
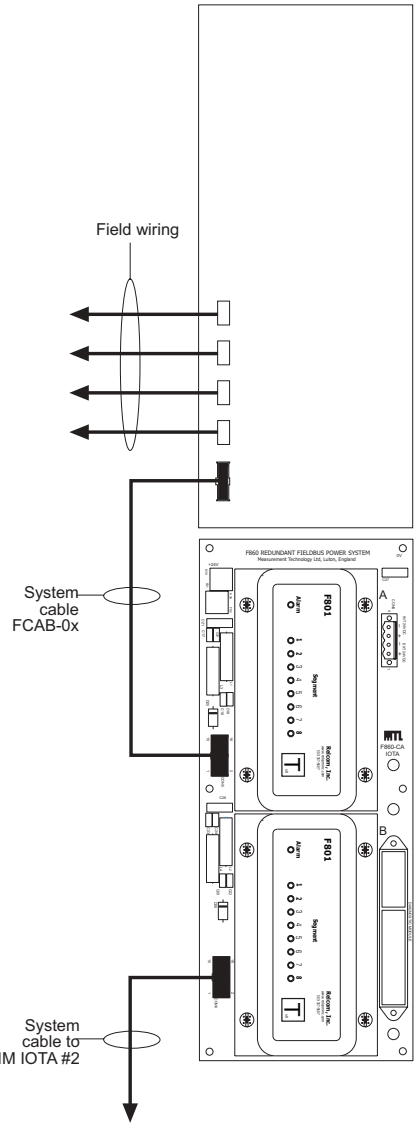
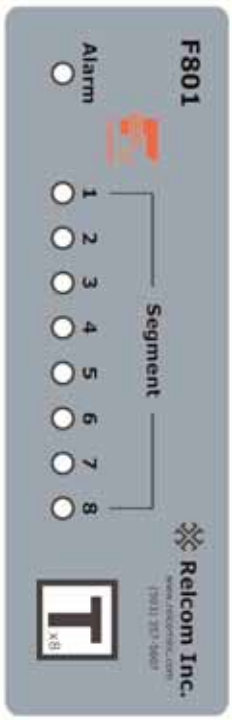


Diagram showing interconnection scheme



F801 Module top panel showing indicators



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APPROVALS - *for the latest certification information visit www.mtl-inst.com/certs_1.nsf*

Country	Authority	Standard	Certificate	Approved for	Ratings
–	FIELDBUS foundation™	FF-831	PS001700	H1 Profile - 132	–