F860

Redundant fieldbus power for Honeywell Experion "Series C" 4-link FIM

- **redundant power for 8 fieldbus segments**
- **8-segment redundancy**
- **"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**
- **F801 output 21.5V, 350mA**
- **F802 output 28V, 500mA**

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 power modules - F801s or F802s - operating in a redundant configuration. Failure alarms, galvanic isolation, power conditioning and segment termination are incorporated into each F80x module. In simplex applications, a single F80x module may be used. Termination of the fieldbus segments is automatically maintained when single or redundant F80x 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 F80x 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 F80x 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 F80x 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 on the carrier to automatically collect and distribute additional diagnostic information for each of the eight fieldbus segments. For more information see the F809F product specification.

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, two independent (for redundancy) external 24V DC supplies may be connected to the IOTA via two-part pluggable connectors. Each F80x power module is protected by its own replaceable anti-surge fuse, to provide reliable bulk power.

Powering Business Worldwide

Eaton Electric Limited,
Great Marlings, Butterfield, Luton
Beds, LU2 8DL, UK.
Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283
E-mail: mtlenquiry@eaton.com
www.mtl-inst.com

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SPECIFICATION

Location of equipment
Safe area

INPUT	F801	F802
Input voltage (DC)	19.2 - 30.0V	19.2 - 30.0V
Current conumption (24V input, all outputs fully loaded)	3.5A*	6A*
Total Power dissipation (24V input, all outputs fully loaded)	20W*	24W*

** Redundant operation*

OUTPUT	F801	F802
Number of channels	Eight (8)	Eight (8)
Voltage (DC)	21.5V - 24.0V	28.0V - 30.0V
Design current (per segment)	0 to 350mA	0 to 500mA
Current limit	> 370mA	> 520mA
Minimum load	0mA	0mA
Isolation		
Fieldbus to input power:	250V AC rms withstand	
Segment to segment:	200V DC withstand	

ALARMS

Alarm contact rating
1A maximum @ 30V DC maximum

Alarm contact status
Normally closed

Alarm threshold	F801	F802
Segment output	<19V DC	<24V DC

POWER INPUT CONNECTIONS

Channel Busbars
Via mounting screws onto busbar

OR

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)

TERMINATORS

A single termination per segment is provided automatically when using either 1 or 2 power modules.

ENVIRONMENTAL

Ambient temperature	F801	F802
Operating (full load)	−40°C to +65°C	−40°C to +50°C
Operating (60% load)	−40°C to +65°C	−40°C to +65°C
Storage	−40°C to +85°C	−40°C to +85°C

***Note**: Temperature range applies only when mounted on a vertical IOTA channel.*

Ingress protection
IP20 to BS EN60529 (Additional protection by use of enclosure)

MECHANICAL

Mounting method
Standard Honeywell 'Series C' I/O mounting channel

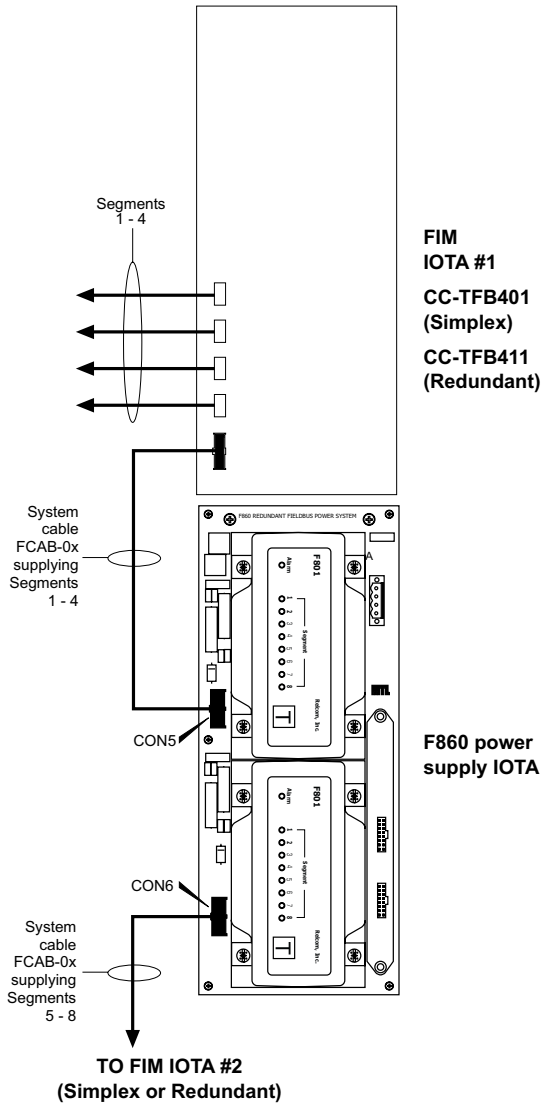
Weights

F801:	1.45kg
F802:	1.50kg
F860-CA:	0.92kg

ELECTRICAL

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

Diagram showing interconnection scheme



PHYSICAL NETWORKS

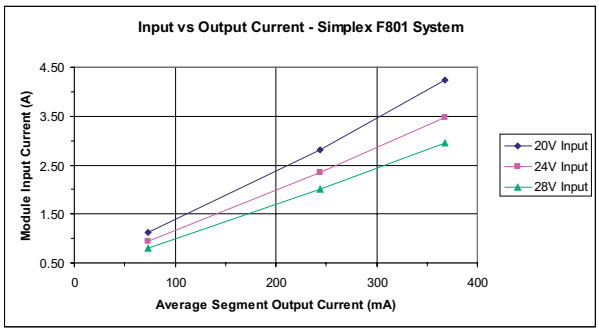
IEC61158-2
ISA-S50.02 Part 2-1992
FOUNDATION™ fieldbus H1
Profibus PA

ORDERING INFORMATION

DESCRIPTION	PART NO
IOTA, unpopulated	F860-CA
8-segment power module: 21.5V, 350mA	F801
8-segment power module: 28V, 500mA	F802
IOTA power cable, 30cm	FCAB-05
IOTA power cable, 1m	FCAB-06
IOTA power cable, 2m	FCAB-07
IOTA power cable, 4m	FCAB-08
F860 system comprising two F801 modules and an F860-CA IOTA	F860
F860 system comprising two F802 modules and an F860-CA IOTA	F860-2

F801 PARAMETERS

a)



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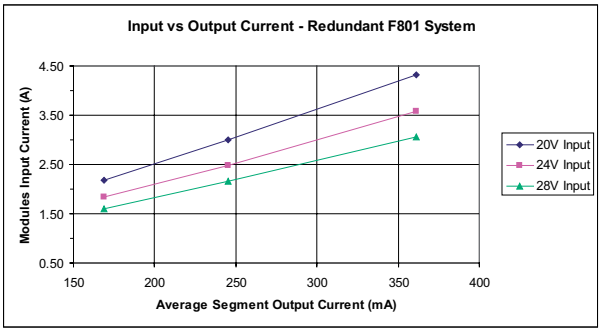

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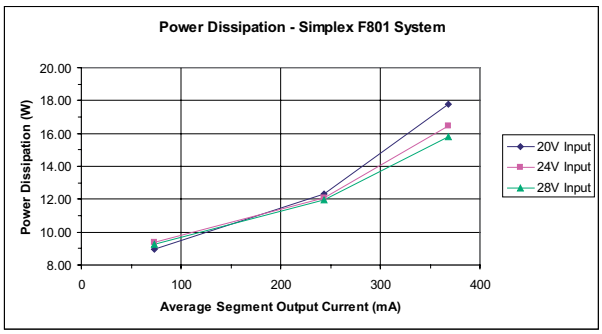

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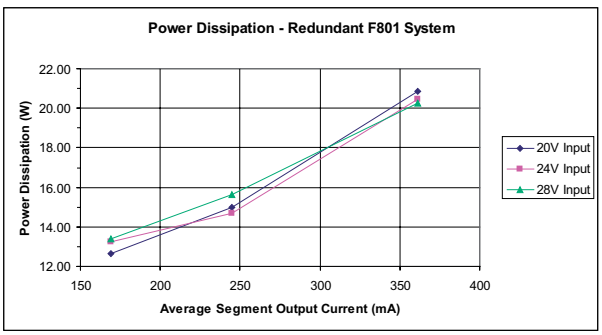
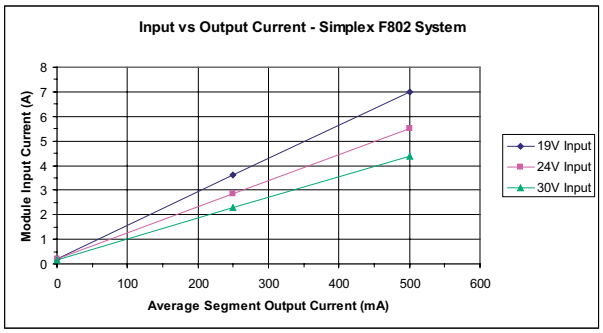


F802 PARAMETERS

a)



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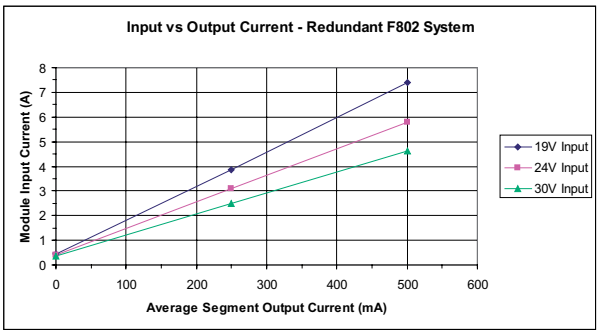

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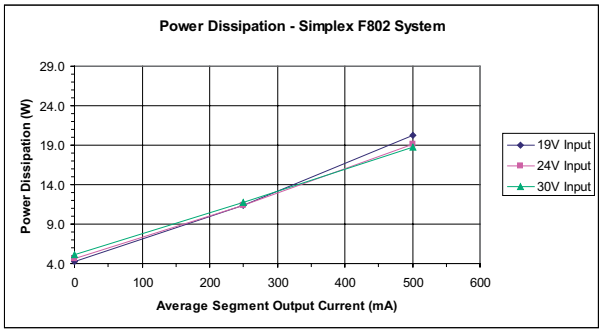

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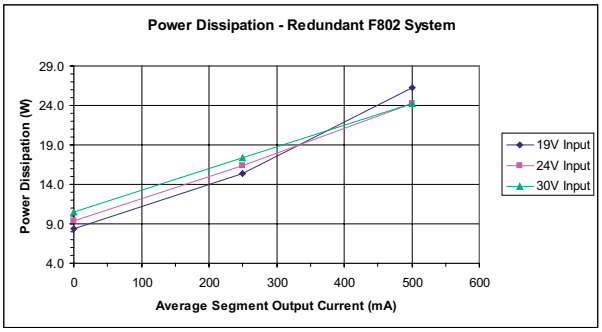
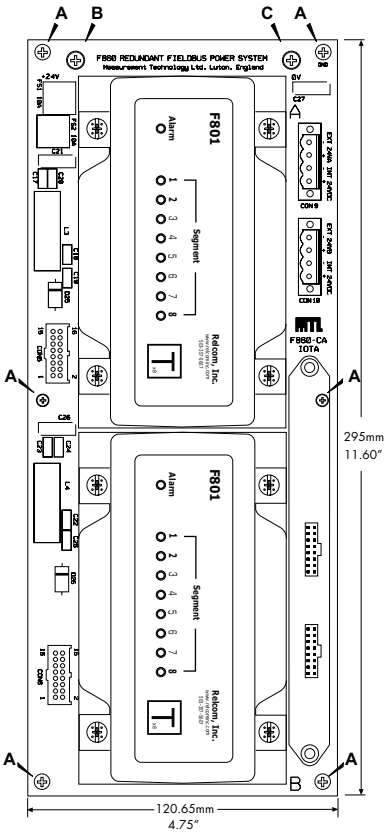
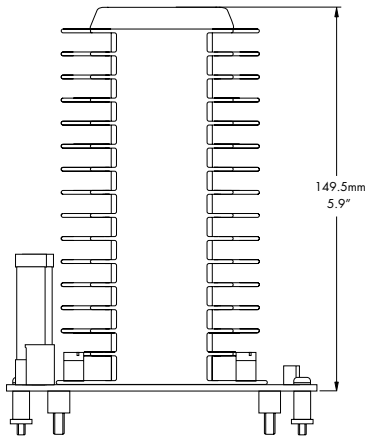


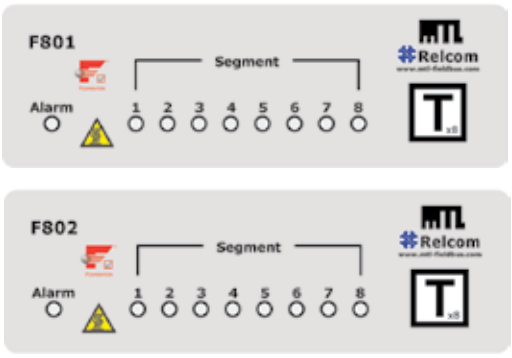
F860 DIMENSIONS





CAD drawings are available on-line at www.mtl-inst.com

F80x module top panels showing indicators



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

Country	Authority	Standard	Certificate	Approved for	Ratings
–	Fieldbus Foundation™	FF-831	PS001700 (F801) PS001900 (F802)	H1 Profile - 132	–

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Eaton Electric Limited,
Great Marlings, Butterfield, Luton
Beds, LU2 8DL, UK.
Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283
E-mail: mtlenquiry@eaton.com
www.mtl-inst.com

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EUROPE (EMEA):
+44 (0)1582 723633
mtlenquiry@eaton.com

THE AMERICAS:
+1 800 835 7075
mtl-us-info@eaton.com

ASIA-PACIFIC:
+65 6 645 9888
sales.mtlsing@eaton.com