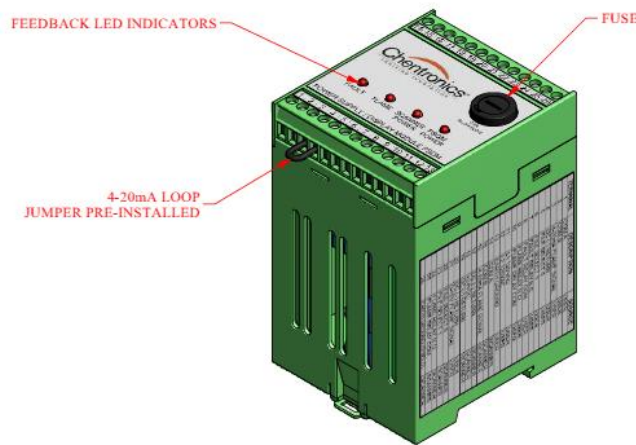# Power Supply Display Module

PSDM

Installation and Operation Manual

Read this manual before using this product. Failure to follow the instructions and safety precautions in this manual can result in serious injury or death or damage to equipment.

KEEP THIS MANUAL IN A SAFE PLACE FOR FUTURE REFERENCE!

> ⚠ **This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**

Table of Contents

1. Safety Warnings

<u>IMPORTANT SAFETY INFORMATION</u>

<u>Read All Instructions before Using</u>

The instructions provided in this manual have been prepared to serve as a general guide. It is intended for use by qualified personnel with knowledge of equipment of this type. It is not intended to cover all possible variations in equipment or to provide for specific operating problems which may arise.

You are responsible for adhering to all warnings or cautions provided in this manual.

In addition to any general safety measures provided in this manual, you must comply with all current national, state, local and company safety regulations at all times.

Safety Symbols used in this manual comply with ISO 3864.

⚠ DANGER	Indicates a hazard with a high level of risk which, if not avoided will result in death or serious injury.
⚠ WARNING	Indicates a hazard with a medium level of risk which, if not avoided could result in death or serious injury.
⚠ CAUTION	Indicates a hazard with a low level of risk which, if not avoided will result in minor or moderate injury.

2. Customer Support

The instructions provided in the Manual have been prepared to serve as a general guide for qualified operating personnel with knowledge of the Equipment. It is not intended to cover all possible variations in equipment or to address specific operating problems which may arise.

For Technical Support Call: +1.866.821.5504

3. General

3.1. Product Description

The primary function of the **P**ower **S**upply **D**isplay **M**odule "**PSDM**" is to provide power for a single iScan2™ flame scanner. It provides (DIN) rail mounting for easy mounting and dismounting. It has a 0.20 amp slow blow fuse conveniently located on the top of the unit for easy replacement. The PSDM is also a display module with four light emitting diode (LED) indicators on the top which indicate the following information:

- Power: Indicates the PSDM has power applied
- Scanner: Indicates the Scanner attached to the PSDM has power applied
- Flame: Indicates the Scanner is detecting a flame (4-20 mA signal above threshold)
- Fault: Indicates there is a fault with either the scanner or the PSDM

The PSDM also has two outputs that are not directly available from the flame scanner:

- Fault Relay Contact (closes on fault)
- 0–10 VDC Flame Signal Output

4.   Technical Specifications

Part Number	2643-064-01
Electrical Classification	NEMA 1
Weight	0.2 lb (0.1 Kg)
Mounting	Standard DIN Rail (EN 50 022)
Housing Material	TBS Thermoplastic, Inflammability Class V0, UL 94
Temperature Rating	-30°C to 70°C (-22°F to 158°F)
Humidity	85% Relative Humidity, Non-condensing
Power Requirement	120 VAC ±10%, 50–60 Hz, 11 VA
Power Output	24 VDC, 180 mA
4-20 Fault Contact	Normally OPEN (contact closes when a 4-20mA fault occurs) 0.5 A @ 120 VAC Resistive Load 1.0 A @ 24 VDC Resistive Load
Flame Relay Contact	*Note: Passed through from scanner.* Normally Open (i.e. contact closes when flame is detected) 0.5 A @ 120 VAC Resistive Load 1.0 A @ 24 VDC Resistive Load
Flame Signal Output (VDC)	0–10 VDC for Indication Only
Flame Signal Output (mA)	*Note: Passed through from scanner.* 4–20 mA for Indication Only Maximum Current Loop Resistance = 750 ohms
Approvals	FM APPROVED c RU us

5.   Dimensions

Figure 1 - PSDM Dimensions
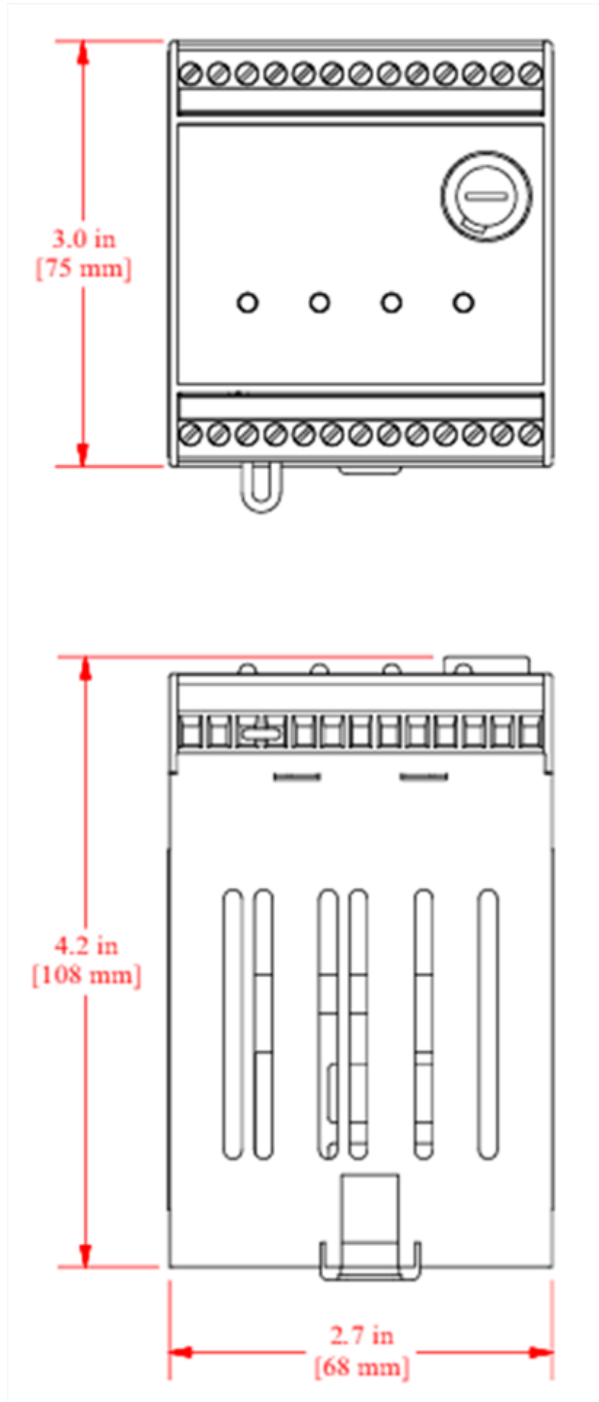
6. Wiring Instructions

The PSDM is designed to mount in an electrical enclosure or rack. Attach the PSDM to a horizontally mounted DIN rail (EN 50 022). Mount the PSDM <u>before</u> connecting power or making any other wiring connections.

> **⚠CAUTION**
>
> To reduce the risk of electrical shock and injury, all electrical power from the User Connections must be disconnected or shut off before making any electrical connections. Note that terminals 7, 8, 9, & 10, as well as the power terminals 11 & 12, may have up to 120 VAC on them.

6.1. iScan2 Scanner Connections

Connect the ten scanner wires to the terminals listed below.

|	
14	Communications A
15	Communications B
16	4–20 mA Flame Signal
17	DC (-) Return
18	+24 VDC
22	File Select B (0)
23	File Select C (1)
24	Flame Relay (N.O.)
25	Flame Relay (Common)
26	Earth Ground

6.2. User Connections

User connections are made to the terminals listed below. Connections to the ac power input (#11 & #12), the flame relay contacts (#9 & #10), and earth ground (#13) are required for all applications. Use the other connections as required for the specific application and scanner.

1	Communications A
2	Communications B
3	4–20 mA Flame Signal See Wiring Notes #2
4	DC Return
5	File Select B (0)
6	File Select C (1)
7	Fault Relay (N.C.)
8	Fault Relay (Common)
9	Flame Relay (N.O.)
10	Flame Relay (Common)
11	120 VAC Hot (L1)
12	120 VAC Neutral (L2)
13	Earth Ground
19	DC Return
20	DC Return
21	0–10 VDC Flame Signal

6.3. Wiring Diagram
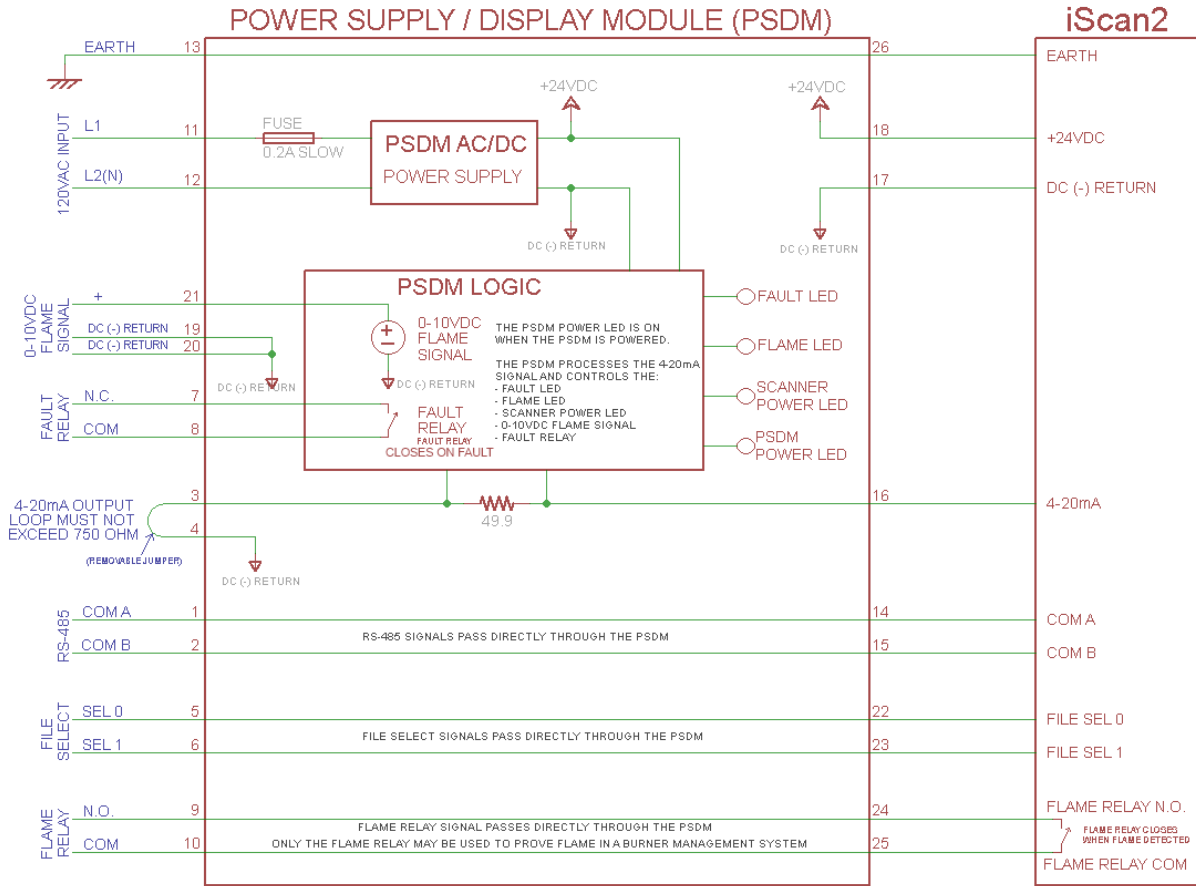
Wiring Notes:

1. Scanner wire colors shown are for the base model and the fiber optic model scanners. The hazardous location model scanner has numbered black wires.
2. The PSDM ships with a jumper between terminals 3 & 4. This jumper completes the current output loop allowing the Scanner Power LED, Flame LED, Fault LED and, Fault Relay to work properly. If the 4–20 mA output is to be used, then remove the jumper and connect the 4–20 mA loops to terminals 3 & 4.
3. Use the earth ground (terminal #13) to provide a connection between the PSDM and the enclosure in which the PSDM is mounted. Make sure the enclosure is properly grounded to earth ground.

7.   Maintenance

The **only** replaceable part is a 0.2 amp slow blow fuse located on the top of the unit.

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⚠ CAUTION

To reduce the risk of fire, replace the fuse with one of the same type and rating.

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