2620 Sensor Interface

Installation and Operating Manual

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Rev. 01

System 2600

Link Electric & Safety Control Co.
444 McNally Drive
Nashville, TN 37211

Phone: (615) 833-4168
Fax: (615) 834-1984

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1 INTRODUCTION

The 2620 Sensor Interface unit permits convenient connection of all kinds of sensor types to die protection logic units such as OmniLink MPC controls, System 2600 die protection units, or even third party units. Sensors and probes installed in or near the die are connected to the Sensor Interface which also provides sensor power

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The Sensor Interface is designed to be located near the die to facilitate die changes, setup, and troubleshooting. It permits quick connection of individual sensors via industry standard M12 4 pin connectors (also known as Micro-DC or Eurofast connectors) or of all sensors at once via an optional Quick Connect Receptacle (Link or customer supplied).

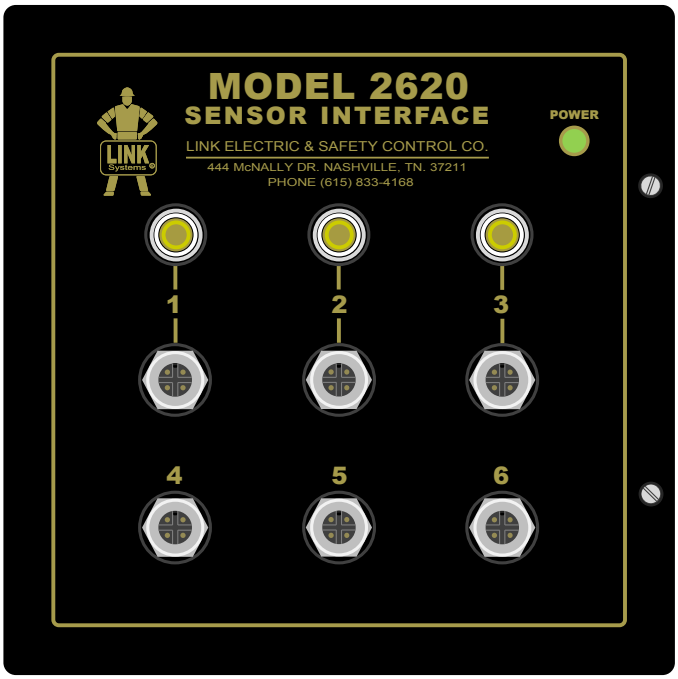

Figure 1: 2620 Sensor Interface

1.1 Features

- Solid state sensors (NPN or PNP), spring probes, and mechanical sensors may be used as inputs to the Sensor Interface.
- Up to 8 sensors can be powered and passed through to a die protection unit via the internal connectors (usually through a Link or customer supplied bulk quick connection).
- 6 M12 4 pin sensor connectors (also known as Micro-DC or Eurofast connectors) are provided on the face of the unit for connecting individual sensors to channels 1 - 6.
- 3 Banana plug/binding post connectors are provided on the face of the unit for connecting grounding spring probes or mechanical sensors to channels 1 - 3.
- No configuration is necessary to select sensor type. This Sensor Interface is designed for die protections units that can select NPN or PNP sensors on their own and so passes the sensor signal directly through.
- The Sensor Interface is powered from 115 to 230 VAC and provides 24 VDC @ 0.5 Amp total for powering sensors. Sensor power is available on each of the front panel M12 connectors, the optional bulkhead connector, and internal terminal strips.
- In cases where 0.5 Amps is not enough power, the Sensor Interface can be powered by an external 24VDC power supply up to 10 amps.
- The enclosure of the Sensor Interface features a removable bulkhead that can be fitted with a quick connection receptacle so that only one cable must be plugged in from the die. Link has an optional standard connector (a 19 pin Turck receptacle suitable for up to 16 channels) or, if desired, a customer supplied connector can be used.

1.2 Specifications

Size:	6.6” X 6.6” X 4.25” deep (Not counting connections on the front or quick connect bulkhead connector)
Input Power:	90-264VAC, 47-63Hz, 0.4Amps ***OR*** 24VDC +/- 10%, Up to 10 Amps

> **NOTE:** Unit should be powered by AC power ***OR*** DC power, ***Not Both!***

Sensor Power:	24 VDC 0.5 Amps total for all sensors from internal supply 24 VDC up to 10 Amps pass-through from external supply
Total Sensor Channels:	8
Front Panel Connections:	3 Banana plug/Binding Post (channels 1 - 3) 6 M12 4-pin (channels 1 - 6)
Internal Connections:	Pluggable terminal strips (channels 1 - 8)

2 INSTALLATION

The dimensions and mounting footprint of the Sensor Interface are shown below in Figure 2. ***When mounted to the press frame or other high shock areas, Link highly recommends using the included shock mounts, which will add about 0.75 inches (19mm) to the depth of the unit.***

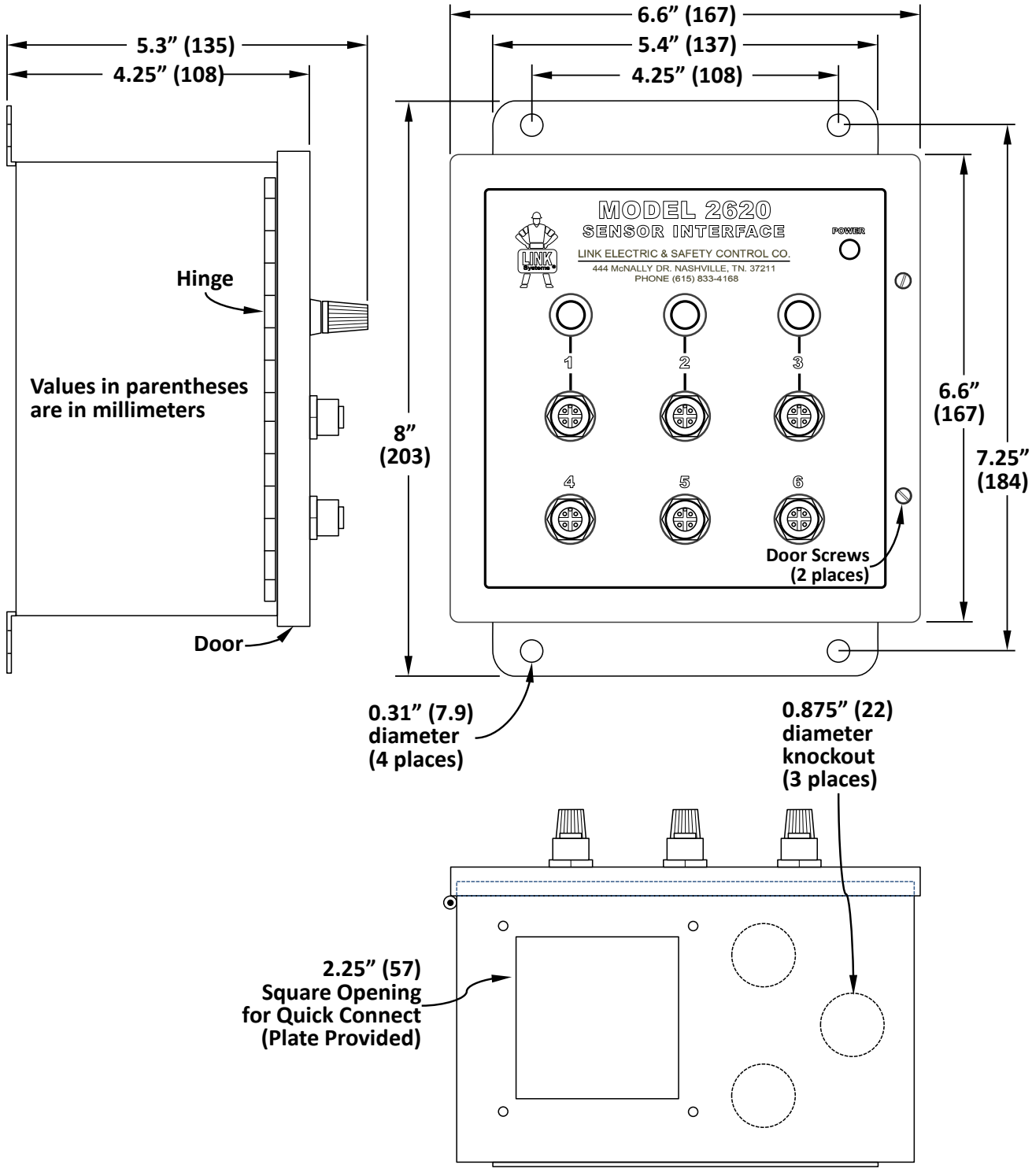

Figure 2: 2620 Sensor Interface Dimensions

2.1 Wiring

In the following sections, refer to Figure 3below for the locations of particular connectors and other relevant features.

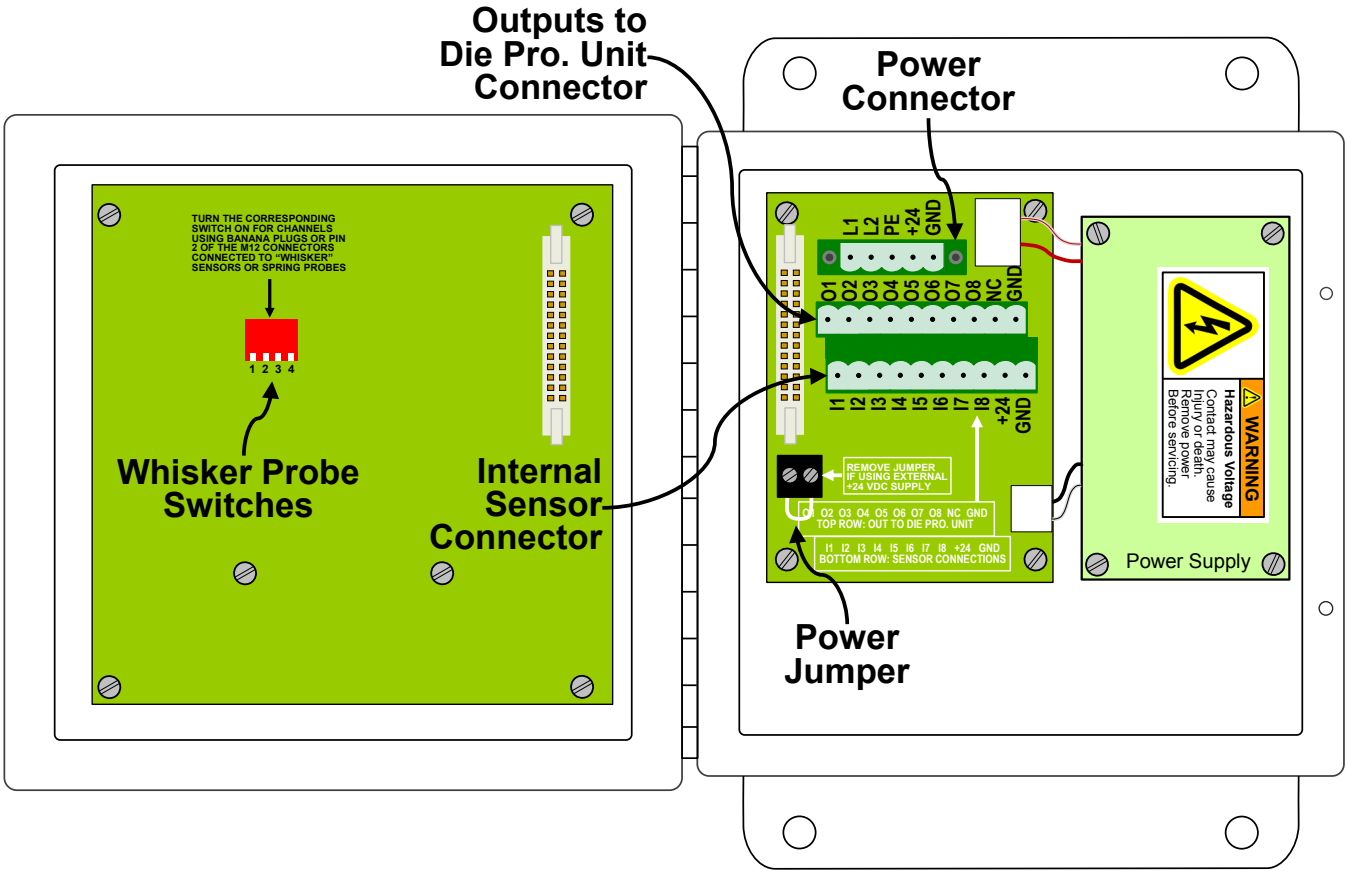

Figure 3: 2620 Sensor Interface Internal Features

2.1.1 Power Wiring

WARNING: National Codes and standards (NEC, VDE, BSI, etc.) and local codes outline provisions for safely installing electrical equipment. Installation must comply with specifications regarding wire types, conductor sizes, branch circuit protection, and disconnect devices. Failure to do so may result in personal injury and/or equipment damage.

The Sensor Interface is typically powered by 115VAC, but can be powered from 100 to 240 VAC ***OR*** can pass through an external 24 VDC supply at up to 10 Amps. An external +24 VDC power supply might be used in cases where unusually high power draw sensors require more than the 0.5 Amps of current that is available from the internal power supply of the Sensor Interface. Pull power wires with the appropriate color code in conduit between the Sensor Interface enclosure and the source of power. Knockouts are provided at the bottom of the enclosure for this purpose.

When using AC power, use the L1, L2 and PE terminals. When using an external +24 VDC power supply, use the +24, GND, and PE terminals. The table at right shows the usage and specifications of the connections on the power connector.

NOTE: ***When using an externa +24 VDC supply, the Power Jumper (see Figure 3) must be removed.*** This disconnects the internal +24 VDC supply of the Sensor interface.

Power Connector (See Figure 3)	
L1	90 – 264 VAC Line 29 VA (0.4 Amp at 90 VAC)
L2	100 – 240 VAC Neutral
PE	Protective Earth ***(used with both AC and DC input power)***
+24	+24 VDC Input Power ***(Up to 10 Amps can be passed through)***
GND	Ground - +24VDC Return

WARNING: The Sensor Interface can be powered from **EITHER** 100-240VAC **OR** +24VDC. **Never** hook up both AC and DC power at the same time. ***When using an external +24 VDC supply, make sure the Power Jumper (see Figure 3) is removed*** so that the internal +24 VDC supply is disconnected.

2.1.2 Internal Sensor Connector Wiring

The Internal Sensor Connector (see Figure 3) is primarily used in conjunction with a Quick Connect bulkhead connector for mass die termination or if there are some sensors that are always present on the machine regardless of what die is installed. Link offers (Link PN 109090) an optional quick connect bulkhead connector (using a Turck CS-19 connector) that is prewired and ready to plug into the Internal Sensor Connector. Figure 4 at right shows how a typical sensor is wired into this connector. The unit is supplied with a blank plate for mounting an existing connector if a connector system is already in use.

NOTE: If a Quick Connect bulk connector is wired into this connector but there are inputs that are not actually connected in the die, then the corresponding front panel connectors are still available for use.

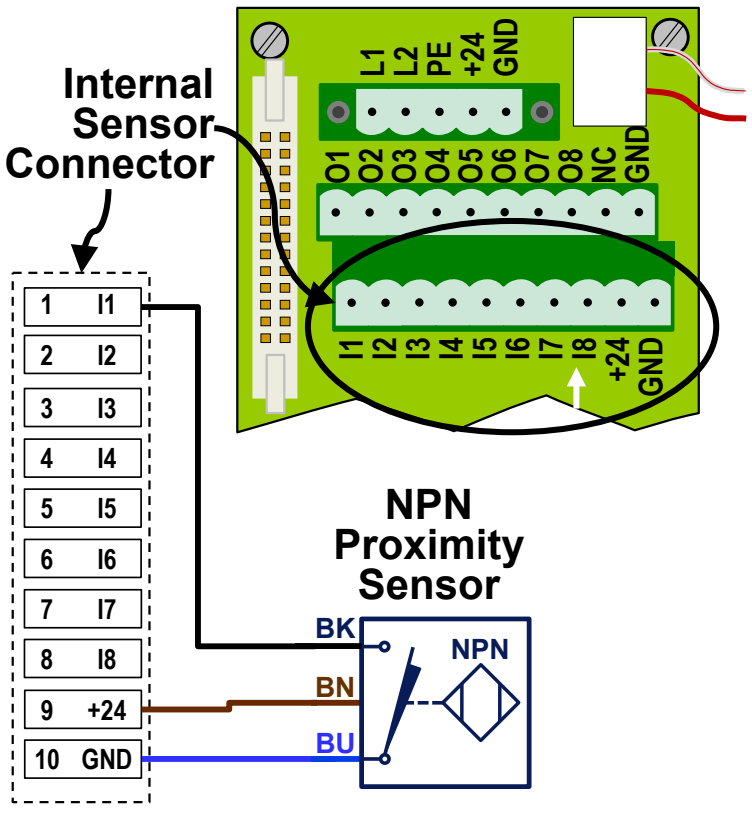

Figure 4: Typical Wiring to Internal Sensor Connector

2.1.3 Front Panel Sensor Connectors

There are 6 M12 4-pin connectors on the front of Sensor Interface that allow individual sensor to be conveniently plugged in. These are wired to match the typical industry standard 2 or 3 wire DC sensors with molded M12 connectors. M12 connectors are also available (Link PN 108046) that can be wired in the field. Figure 5 at right shows the pinout and typical connection for the M12 connector.

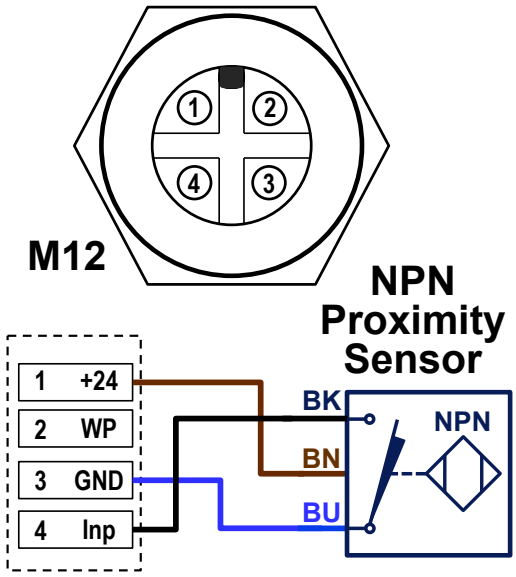

Figure 5: Typical Wiring to M12 Connector

There are also 3 Banana Plug/Binding Post connectors on the front of the Sensor Interface that are intended for use with single wire grounding sensors such as Whisker Probes, Spring Probes, or other mechanical sensors that are grounding in nature. Note that Pin 2 on the first 4 of the M12 connectors (labeled WP for "Whisker Probe") is also a grounding-only input so that such sensors can be tied in that way as well. For these sensors, it may be necessary to source more current through the sensor than is required with solid state sensors in order to maintain good electrical contact. The grounding inputs have extra pull-ups for this purpose and even more current can be supplied by switching on the corresponding dip switch for that channel on the door board of the unit (see "Whisker Probe Switches" in Figure 3).

2.1.4 Wiring to the Die Protection Unit

Figure 6 at right shows a close-up of the outputs connector that must be wired to the Die Protection Unit. Depending on the number of channels your Die Protection Unit can handle, it may not be necessary to use all the outputs. Always connect the ground ("GND" in the figure at right) on the outputs connector to ground on the Die Protection Unit. Then O1 through O8 (or however many are needed) can be connected to the corresponding Die Protection Unit input.

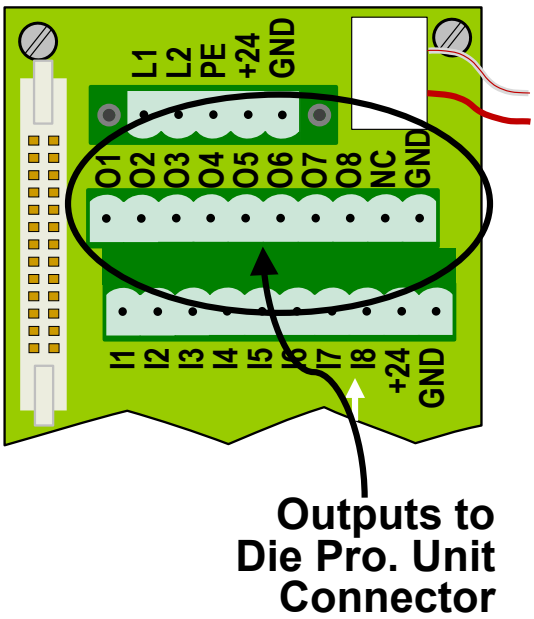

Figure 6: Outputs Connector