

Standard Model	1840-05	1840-12	1840-24
Max. Breakdown Voltage (L-L) and (L-G)	8 V	15 V	30 V

WARNING: If the maximum continuous or short circuit current could exceed the specified values, a current-limiting fuse must be installed between the power supply or current source and the equipment side of the protector. See adjacent table.

General

Each Model 1840 Series unit protects either one differential pair (see Fig. 1), or two individual data lines (see Fig. 2), or one current loop (see Fig. 3).

Cable shields can be passed through and may either be grounded or not grounded at the protector via the grounding link

as shown in Fig. 4. An ungrounded shield will have a shield arc protection of 150 V.

Place protector(s) as close as possible to the equipment to be protected.

Typical Connections

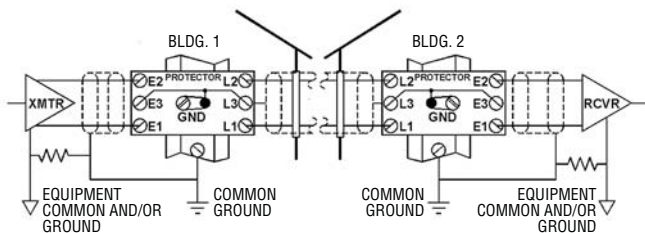


Figure 1
BALANCED OR DIFFERENTIAL INTERFACE
(i.e., RS-422)

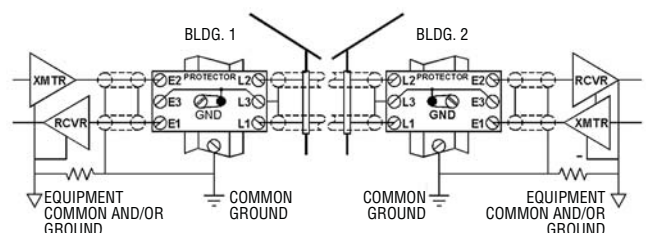


Figure 2
UNBALANCED INTERFACE - TWO INDIVIDUAL CIRCUITS
(i.e., RS-232)

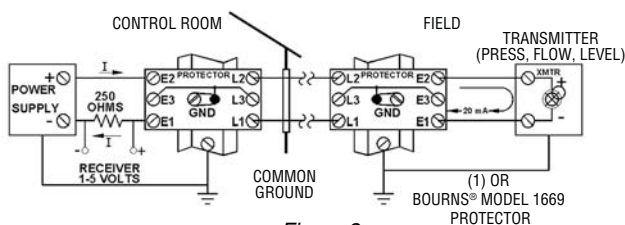


Figure 3
CURRENT LOOP, 4-20 mA

IMPORTANT: Common Ground = Chassis, Power and Earth Ground. However, when earth grounding of electronic common is not permissible, protector(s), including rail, may have to be isolated from earth ground via a Bourns® Model 2027-15-B Spark Gap as shown in Fig. 4.

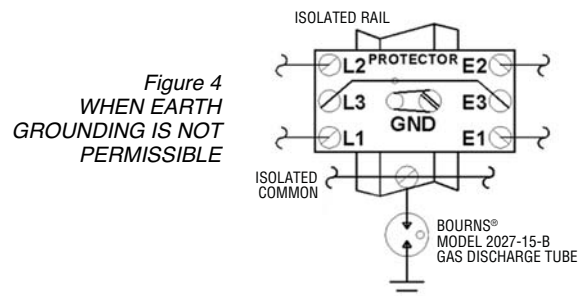


Figure 4
WHEN EARTH
GROUNDING IS NOT
PERMISSIBLE

Mounting Instructions

DIN RAIL MOUNTING (See Fig. 5)

1. Using the clamp assembly, each protector can be installed or removed without disturbing other protectors.
2. Protector establishes ground connections with the rail via the clamp assembly. Tighten screw firmly.
3. Rail must be connected to common ground. A solid or stranded No. 6 AWG tin-plated copper wire is recommended. Length to be as short as possible and not to exceed 10 feet.

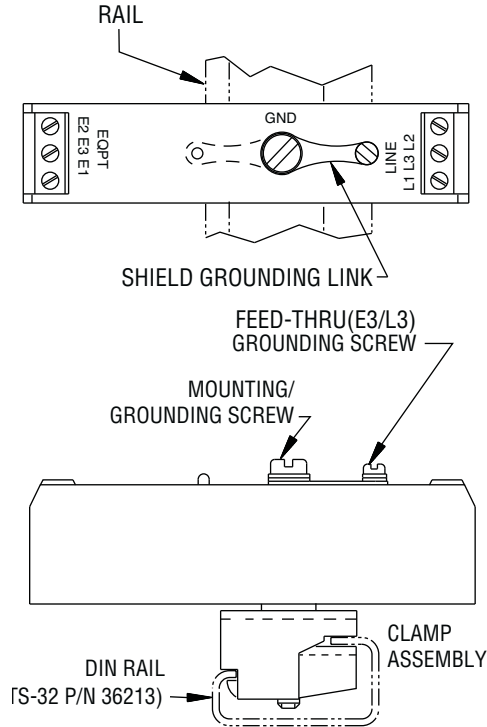


Figure 5
DIN RAIL MOUNTING

BUS BAR OR PLATE MOUNTING (See Fig. 6)

1. Remove clamp assembly from protector.
2. Drill and tap bus bar or plate as shown.
3. Protector establishes ground connection with the bus bar or plate via the 8-32 mounting/grounding screw. Tighten firmly.
4. Bus bar or plate must be connected to common ground. A solid or stranded No. 6 AWG tin-plated copper wire is recommended. Length to be as short as possible and not to exceed 10 feet.

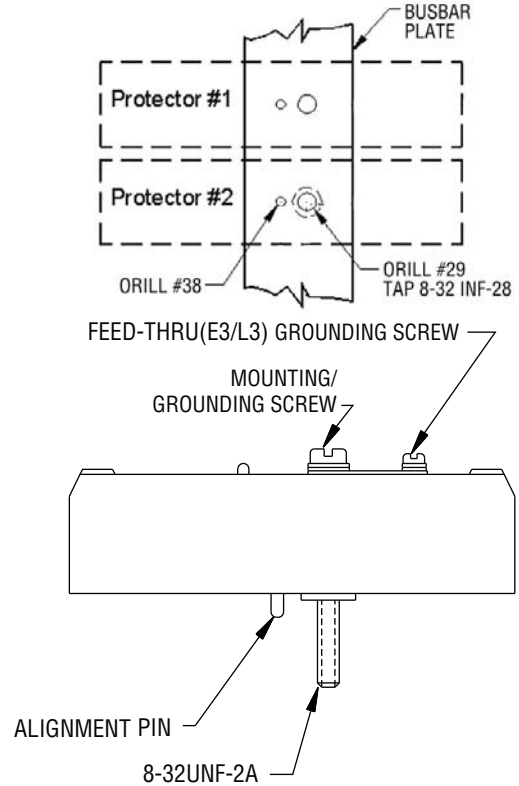


Figure 6
RECOMMENDED BUS BAR OR PLATE MOUNTING

Data Line Connections (See Figures 1-3)

WIRE PREPARATION

Minimum usable wire size is No. 24 AWG. Maximum usable wire size is No. 14 AWG. Strip insulation to 0.3 inches.

LINE TERMINALS L1, L2, L3

Connect the line (field) wires which are subject to high voltage surges to protector terminals L1 and/or L2. Connect the cable shield (if any) to protector terminal L3. L3 is internally connected to E3.

WARNING: Never connect field lines which are subject to high voltage surges to the protector equipment terminals E1 and/or E2. The protector is not designed to deal with such surges and may be damaged.

EQUIPMENT TERMINALS E1, E2, E3

Connect the equipment to be protected to protector terminals E1 and/or E2. Connect the cable shield (if any) to protector terminal E3 unless it is desirable to float the shield at this point (see Figures 1 and 2). E3 is internally connected to L3.

SHIELD GROUND OPTIONS (See Fig. 5)

The shield is normally grounded at the protector with the shield grounding link in position A. If the shield is to be ungrounded, move the grounding link to position B. Re-tighten mounting and grounding screws firmly.