



# Instruction Bulletin

Subject: **SY/MAX**® Class 8030 Type CBP-310  
Remote I/O Data Line Protector (DLP)

## DESCRIPTION

For outdoor communication cable, or indoor cable that is subject to severe electrical disturbances, overvoltage transient protection is required. This protection is to guard both modules and cable from damage. To accomplish this, a device that suppresses transients caused by lightning, inductive switching and electrostatic discharge should be used. This device is called a *Data Line Protector (DLP)*.

## IMPORTANT INSTALLATION CONSIDERATIONS

1. Cable runs between the CRM-2XX Interface Modules and panel DLPs should be kept as short as possible. The shield in the cable can be connected to the DLP's "NC" screw; the portion of unshielded cable must be kept as short as possible. The Interface Module wiring is standard, as discussed in the module's Instruction Bulletin.
2. The panel DLP should be solidly grounded, via its ground lead, directly to the panel.
3. Building DLPs are suggested for outdoor runs of cable to provide primary level protection against lightning-induced transients. The DLPs should preferably be installed at the point of building entry to keep all transients outside the building; otherwise it may be necessary to electromagnetically shield the cable so that the high voltage transients aren't coupled into cables *within* the building. Shielding the cable can be done with a separate, properly grounded, steel conduit.
4. Building DLPs must be solidly grounded, via their GND lead, *directly* to building steel or to the power ground.
5. The load of each DLP is equal to 200 feet of cable.
6. See *SPECIFICATIONS* (Figure 4 on page 2).
7. See *DIMENSIONS* (Figure 2 opposite) for mounting dimensions.

The interconnection diagram on the back of this sheet (Figure 3) shows DLPs mounted both at the panel and at the point where the data cable enters each of the three buildings. For those applications where the data cable never leaves the building, the building DLPs can be eliminated and the cable and shield connections at the panel DLPs remain as shown.

For applications that require cable to be run between buildings, the connection diagram represents the *maximum* protection affordable. No matter where a DLP is mounted, it must be securely grounded to the building.

If the user does not wish to install DLPs at *both* the panel and the cable entrance to the building, it is recommended that the DLP be mounted at *the panel*. SEE *CONSIDERATION #3, OPPOSITE*.

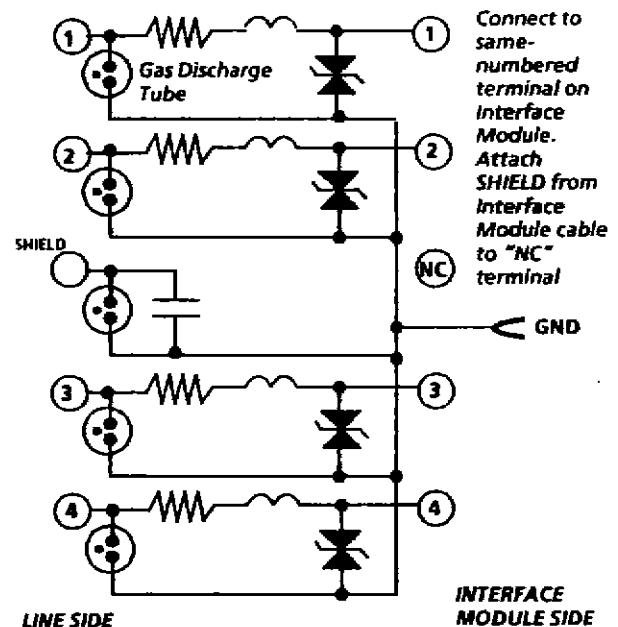


Figure 1 - CBP-310 Schematic

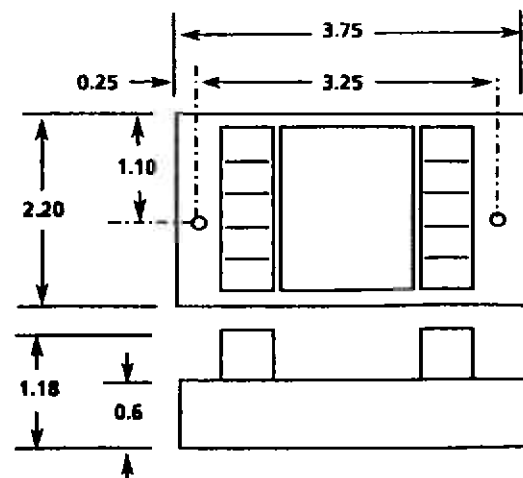


Figure 2 - CBP-310 Dimensions (in INCHES)

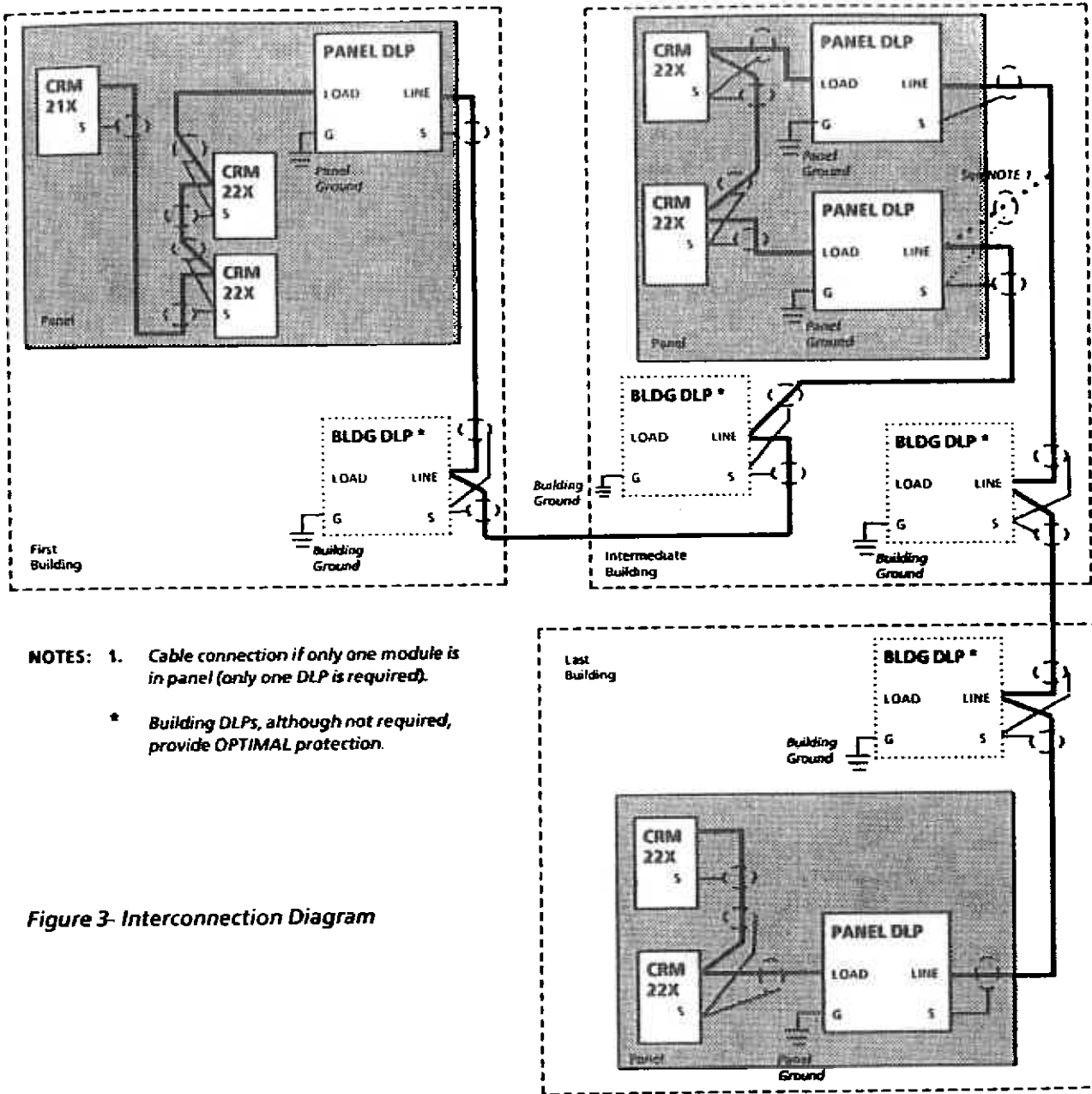


Figure 3- Interconnection Diagram

MAXIMUM RATINGS @ 25° C		ELECTRICAL CHARACTERISTICS @ 25° C	
Operating Line Voltage	± 5V peak	Clamping Voltage (line-to-line and line-to-ground)	12V max. @ 500 A (8 x 20uS) 16V max. @ 2,000A (8 x 20uS)
Operating Line Current	200 mA	Effective Capacitance, Typical @ 0-5V signal	1,600 pF line-to-line 3,400 pF line-to-ground
Transient Voltage	10 KV	Throughput Resistance	3 Ohms max.
Transient Current (8 x 20 uS)	2.5 KA/wire or 10KA/protector	Insertion Loss	0.5 dB max. @ 10MHz
Protection Clamping Time (Theoretical)	Less than 10 Nanoseconds (10 x 10 <sup>-9</sup> )	Standby Current Leakage	5 uA max. @ 12V
Operating and Storage Temperature Range	-55° C to +100° C		

Figure 4 - Specifications (Consult Factory for other electrical or mechanical requirements)