APPLICATION DATA

To estimate the approximate input air pressure for your specific application perform the following steps.

Purely Lateral Overloads

Step 1: Determine the total weight in lbs. of your end of arm tooling. This will give you your mass at the end of the tooling. Let this = M.

$$M = \frac{\text{Weight of Tooling + Part (lbs)}}{32}$$

Step 2: Determine the maximum acceleration in ft/sec2 under full payload for your application at the end of the robot arm. Let this = A

Step 3: Use the following formula to determine your known expected force in lbs.

Force (Fy) = M x A

Step 4: Use your Force (Fy) in the following equation to determine P in psi, your ideal input pressure.
Note: D = Distance from OPD plate to Cg (center of gravity) in inches.

Model	
OPD-MS-1A	P = Fy [(D) x (.581) + .389]
OPD-MS-2HD	P = Fy [(D) x (.172) + .166]
OPD-MS-3	P = Fy [(D) x (0.019) + 0.05]

Purely Axial or Torsional Overloads

To approximate the operational input air pressure (P) for pure Z axis axial overloads, or purely torsional overloads about the Z axis, determine your maximum torque (Mz) in in-lbs or axial force (Fz) lbs. and apply it to the appropriate formula listed below.

Model	Pure Axial Overload	Pure Torsional Overload
OPD-MS-1A	P = Fz (.389)	P = Mz (.512)
OPD-MS-2HD	P = Fz (.166)	P = Mz (.247)
OPD-MS-3	P = Fz (.05)	P = Mz (.024)

Note: Input air pressure settings were determined under laboratory conditions. Your performance settings may vary. The input air pressure may be varied in process to achieve the most sensitive overload protection without sacrificing high payload capacities.

Electrical Interface. The OPD Electronic Interface Module can be used on 12 VDC or 24 VDC Systems. Module outputs are both current sinking, sourcing, and isolated relay contacts. The outputs are independently selectable to (1) a momentary off pulse typically interfaced to the systems emergency stop circuit or (2) a continuous off signal when faulted (until reset).