HVAC I/P Signal Converter – Model 5220716 101526

A compact, low cost, high performance current/pneumatic converter that provides major operational savings for HVAC manufacturers and contractors

• **Resistance to Shock and Vibration** – A low mass moving magnet controlled by a powerful, stationary electromagnetic coil makes the converter insensitive to shock and vibrations, providing remarkable stability

• **High Repeatability and Reliability** – German engineering and sturdy construction mean high performance levels, time after time, for reduced maintenance costs and increased overall system performance.

• **Low Air Consumption - High Throughput Capacity** – Consuming compresses air at a rate of only 0.08 SCFM, the converter reduces air demand requiring a smaller less costly pneumatic system, yet it can deliver a throughput of 1.6 SCFM

• **Quick Calibration** – Accessible connections make calibration faster and easier, reducing maintenance time and costs.

• **Small Size and Weigh**t – The DIN rail-mount HVAC I/P is lightweight (0.55 lbs.) and has a footprint measuring a mere 1.25 1.42 inches, saving valuable panel space.

• **Convenient Installation and Maintenance** – The DIN rail-mount comes with screw-type terminal for electrical connections and 1/8” NPT connections for pneumatic connection, reducing installation and maintenance time and costs.

• **Easy Mounting** – The DIN rail HVAC I/P simply snaps on any type DIN rail for easy mounting.

GENERAL INFORMATION

This German-engineered I/P transducer, developed especially for the HVAC market, shares many of the same characteristics of the Sensycon unit presently being used for process control applications, characteristics that are normally only found on industrial grade converters.

The unique conversion system, with its stationary coil and low-mass moving magnet, gives this unit an unusually high level of transfer characteristics for maximum reliability and repeatability. The air capacity is high while air consumption is low. System air compressor requirements can often be reduced. The unit is insensitive to vibrations and shock, and can be mounted in any position without recalibration. These features, not frequently found in HVAC, provide minimal maintenance and full benefit from your control system.

The stand alone unit can be easily rail mounted in locations generally too small for competitive units. Yet it is still easily accessible.

Specifications

INPUT

Ranges: 4-20mA

Input Resistance:
Ri approximately 200 Ohms Capacitance:
Negligible

OUTPUT

Ranges: 3-15 psi (0.2-1 bar) Characteristic:
Linear to input current, direct or reverse, according to order
Air Capacity: 1.6 scfm (3 kg/h)

AIR SUPPLY

Compressed Air:
20 psi (40 psi max) + 1.5 psi (1.4 + 0.1 bar)
Oil-, water-, and dust-free Consumption:
0.08 scfm (0.2 kg/h)

TRANSMISSION BEHAVIOR

Linearity: ≤ +3% - 0%
Hysteresis: ≤ 0.3%
Response Threshold: s 0.1 % Temperature
Influence: ≤0.1 %/°F
Air Supply Influence: ≤0.3%/1.5 psi (0.1 bar)
Position Influence: ≤ 0.5%
Vibration Influence:
≤ 0.5% for an acceleration
≤10g and a frequency ≤580 Hz

TRANSMISSION BEHAVIOR (Continued)

Influence of Interfering
Radiation: Not Measurable
Response Time:
10-90% and 90-10%
0.3 sec. with a volume of 0.035 cf (100 ml)
10-90%
1.5 sec. with a volume of 0.035 cf (1000 ml) 90-10%
2.5 sec. with a volume of 0.035 cf (1000 mi)

AMBIENT TEMPERATURE

Operation: -40° to 80°F
Storage: -40° to 180°F

MODE OF PROTECTION

Touch-proof, IP 20, NEMA 1

CONNECTIONS

Air. 1/8" Int. NPT
Gauge Ports: 1/8" NPT
Output: 1/8" NPT

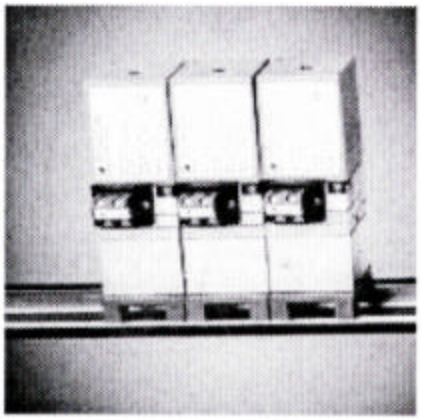
MOUNTING

Clip-on base for:

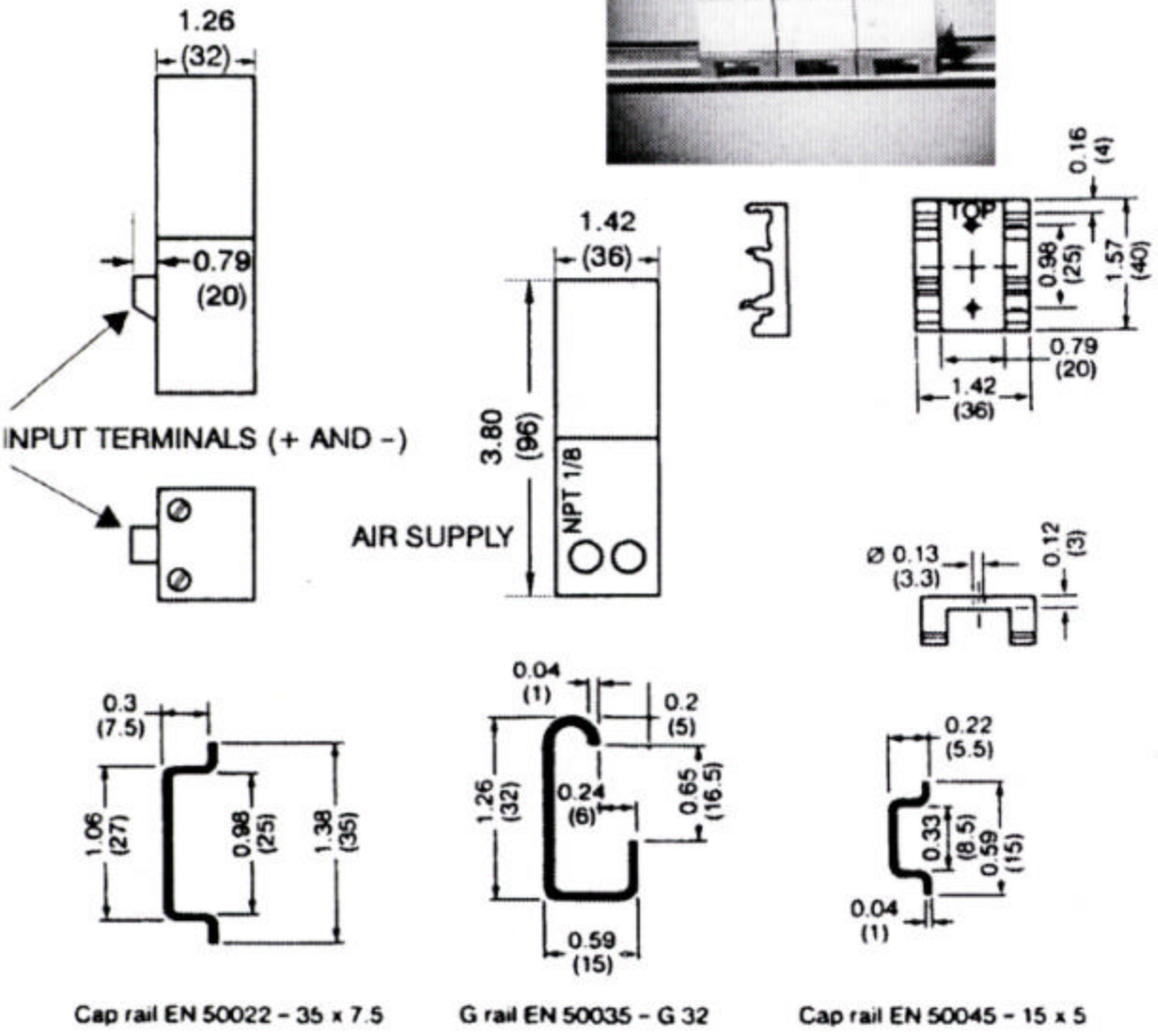
Cap rail	**EN 50022-35 x 7.5**
G rail	**EN 50035-G32**
Cap rail	**EN 50045-15 x 5**

WEIGHT

0.55 lbs (0.25 kg)



Dimensions in inches (millimeters)



Cap rail EN 50022 - 35 x 7.5 G rail EN 50035 - G 32 Cap rail EN 50045 - 15 x 5

WIRING AND CHECKOUT PROCEDURE:

All electrical connections must be made in accordance with job wiring diagrams and national electrical codes. Wiring terminations are mad on screw terminals labeled "+" and "-".

Verify with a milliameter that a 4-20 ma DC signal is present and check if polarity is correct. Also verify 20 psi of main air.

Check transducer operation in this way:

1. **Adjust input signal to 20 ma DC; output pressure should be 15 psi.**
2. **Adjust input signal to 4 ma DC; output signal should be 3 psi.**

This is a rough functional check. The transducer is highly accurate and laboratory-quality meters and gauges are required to check calibration properly.