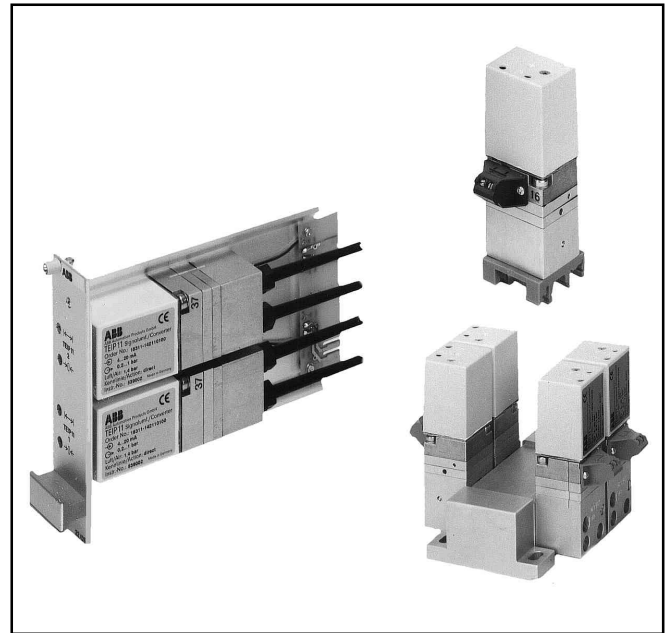


Electro-Pneumatic Converters I/P Signal Converters for Panel & Control Room Utilization

- **Immune to Shock & Vibration:** A low-mass flapper magnet makes converter impervious to shock, vibration, RFI and EMF interference.
- **Small Size & Lightweight:** Minaturization in the converter system makes this unit only 1.26" x 1.42" x 3.8"
- **Harzardous Application at No Extra Premium:** FM/CSA certified, Intrinsically Safe and Non-Incendive. ATEX approved units available.
- **Multiple Inputs & Outputs:** Standard 4-20 mA/3 - 15 psi and 1-18, 3-27and 6-30 psi outputs available from stock. Split and compressed ranges also available.
- **Three Styles of Mounting:** DIN Rail, Block Mount, Manifold Board or 19" Rack.
- **Manifold Boards Available as Factory Assembled:** Easy to order with air supply manifold, supply and output gauges
- **Block mount option:** allows for space saving with common air supply



I/P Converters
for Panel & Control room
Utilization

I/P Signal Converters I/P for Panel & Control Room Utilization

The well know "Sensycon family of I/P converters now part of ABB offers the greatest flexibility and versatility available for use in panel and control room instrumentation. These units offer extremely reliable performance in a compact package which optimizes space utilization and provides the industry's highest mounting density.

The DIN Rail I/P is small and lightweight. The 19" rack mounted I/P provides for twenty-four I/P units in a single 19" rack. Economical manifold boards which accommodate smaller quantities - up to four I/P units per board - offer further product enhancement with easy installation. The ability to add P/I units, not only in the same rack, but on the same card, allows SENSYCON the unique ability to provide IPPI I/O Stations.

The design of the unique patented I/P's signal conversion system results in a unit that is inherently insensitive to shock, vibration, and mounting position. With all the options available, the choice is obvious: ABB I/P Signal Converter with booster.

Engineering Specifications

Input Range	4-20 mA	4-20 MA
Output Range	3-15 psi 1-18 psi	3-27 psi 6-30 psi
Air Capacity	2.4 scfm	2.4 scfm
Air Supply	20 psi (40 psi max)	35 psi (40 psi max)
Air Consumption	0.095 scfm	0.095 scfm
Accuracy*	≤0.5%	≤1.0%
Hysteresis	≤0.3%	≤0.3%

*Accuracy:	Less than 0.5% of span, including the combined effect of linearity, hysteresis, and repeatability - defined as independent linearity per SAMA Standard PMC 20.1.1973 (Overall per ISA 51.1)
Repeatability:	(ISA 51.1) ±0.25%; typically ±0.15%
Input Resistance:	R ₁ approximately 260 Ω
Input Capacitance:	Negligible
Output Characteristic:	Linear to input current, direct or reverse, according to order.

Resolution Response Time:

0.3 sec with 0.0035 cf of volume
1.5 sec with 0.035 cf of volume

Temperature Limits:

-40°F to +180°F
(-40°C to +80°C)
-67°F (-55°C) optional

Instrument Air Specification applicable to all I/P models.

Air Quality: Free of oil, water and dust to DIN/ISO 8573-1 pollution and oil content according to Class3, dew point 10K below operating temperature.

Purity: Max. particle size 5 micro meter.
Max. particle density: 5 mfg/m³

Note: Before connecting the air pipes, remove dust and other particles by blowing and purging lines.

FM Approvals

Model 22/06-61, -63, -64 & -65

Intrinsically Safe: Class I, Division 1, Groups A, B, C & D
073406: I_{max} = 125 mA; V_{max} = 40 VDC)
Nonincendive: Class I, Division 2, Groups A, B, C & D

CSA Approved

Model 22/06-61 and -65

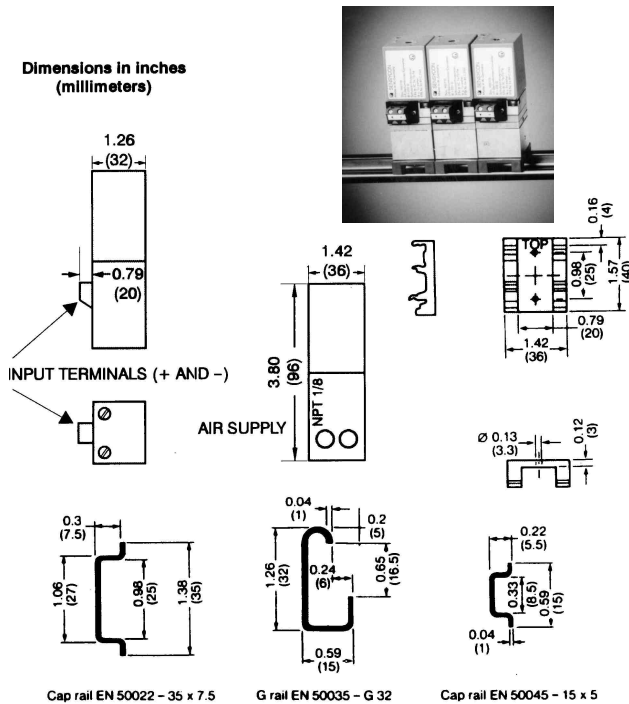
Intrinsically Safe: Class I, Division 1, Groups A, B, C & D, Class I, Division 2, Groups A, B, C & D

DIN Rail Mount Units

Models 22/06-65

ATEX Approved Units also available.

The Standard DIN rail-mount unit is ideal where space is at a premium, and it's especially suited for panels and remote enclosures: It simply snaps onto a DIN rail and requires less than 1.5 inches of mounting space on any of three types of DIN rail.



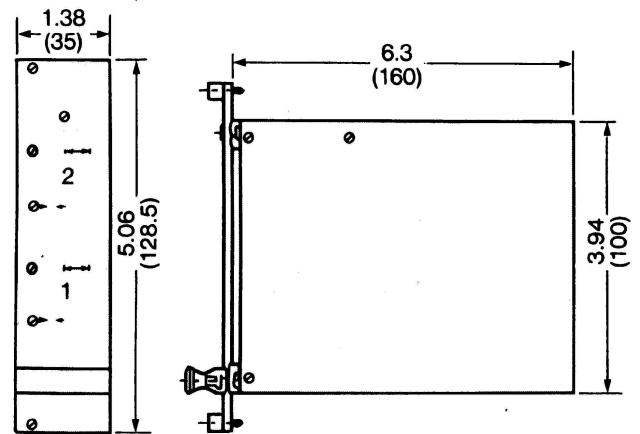
19" Rack-mount Units

Model 22/06-61

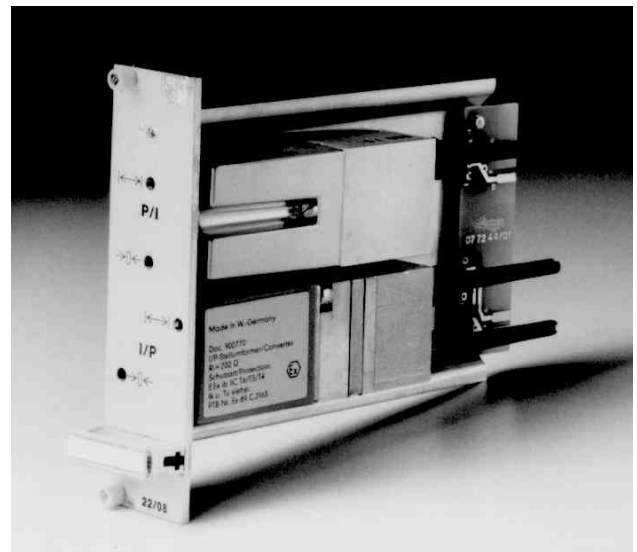
ATEX Approved Units also available.

The twin-mount unit provides the industry's highest mounting density - 24 units on a single 19" rack. Calibration points are easily accessible at the front of the unit. With ball check valves in our rear termination cards, these units can be removed from racks without interruption of the air supply.

When ordered together, units are assembled in the rack and calibrated before shipment. A P/I and an I/P can be mounted on a single card for a twin configuration to supply single-loop input/output conversion.



Dimensional Drawing



IPPI I/O Multipoint Electro-Pneumatic Input/Output Stations

The unique capability to mix or match I/P's and P/I's - even on the same card - give these I/O Stations maximum versatility.

General Description

Utilizing the proven Sensycon converter, the industry's smallest signal converter, these new I/O stations offer the capability of mounting I/P and P/I, and the combination of IPPI signal conversion cards, within a single station. Now you can easily identify loops and make calibrations at one location. Plus you can mix or match any combination of converters to allow the greatest flexibility when installing new distributive control systems or upgrading existing systems.

The 19" rack-mounted stations have the industry's highest mounting density-24 units on 12 cards - for the greatest utilization of valuable space. These units come with front electrical termination and bottom pneumatic connections. They also can be wall mounted.

An air supply manifold is standard on many models of these I/O stations. Other features provide for quick and easy servicing.

These I/O stations offer many new uses for the reliable, signal converter that is also available for DIN rail and with metal or polycarbonate field housings.

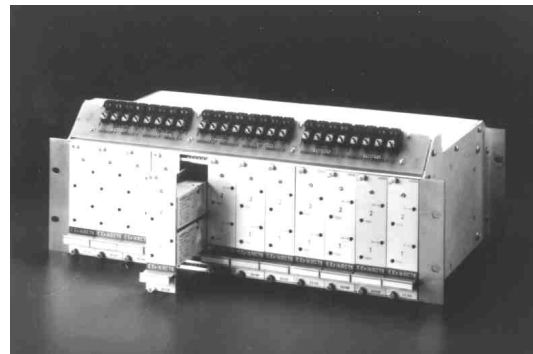
Ideally suited for distributive control systems, these stations and our other I/P and P/I mounting configurations offer industry the widest possible application range for a single product.

Features

Small Size and Weight - 24 units will fit in a standard 19" rack, which saves invaluable mounting space. All configurations are compact and light-weight.

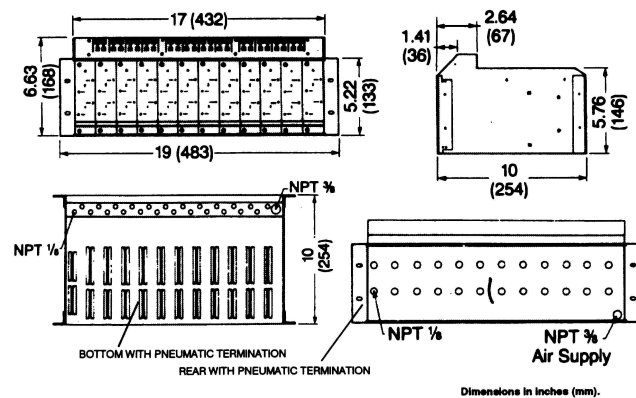
Quick Disconnect - Each card slips in or out without having to disconnect electrical or pneumatic terminations. In addition, the pneumatic signal and air supply to other loops within the same stations are not interrupted.

Universal 19" Station Model 10/51



For use in a 19" rack or as a wall-mounted unit, the Universal station has front electrical termination and bottom pneumatic termination. The front electrical panel includes the two-wire connector, a test connection, and an LED indicator for each point. This unit represents the industry's highest mounting density with 24 points on 12 cards. An air supply manifold is standard.

Dimensional Drawings



Manifold Board Assemblies

The cost effective solution for mounting ABB I/P units in small quantities for panel or wall mount installations.

The ABB I/P is also available in a board mount version that can be mounted on a manifold board without the use of tubing and fittings. Up to four I/P converters can be mounted on a board with a single electrical terminal strip, air supply pressure gauge, individual output gauges and output connections. The boards can be interconnected to create large systems.

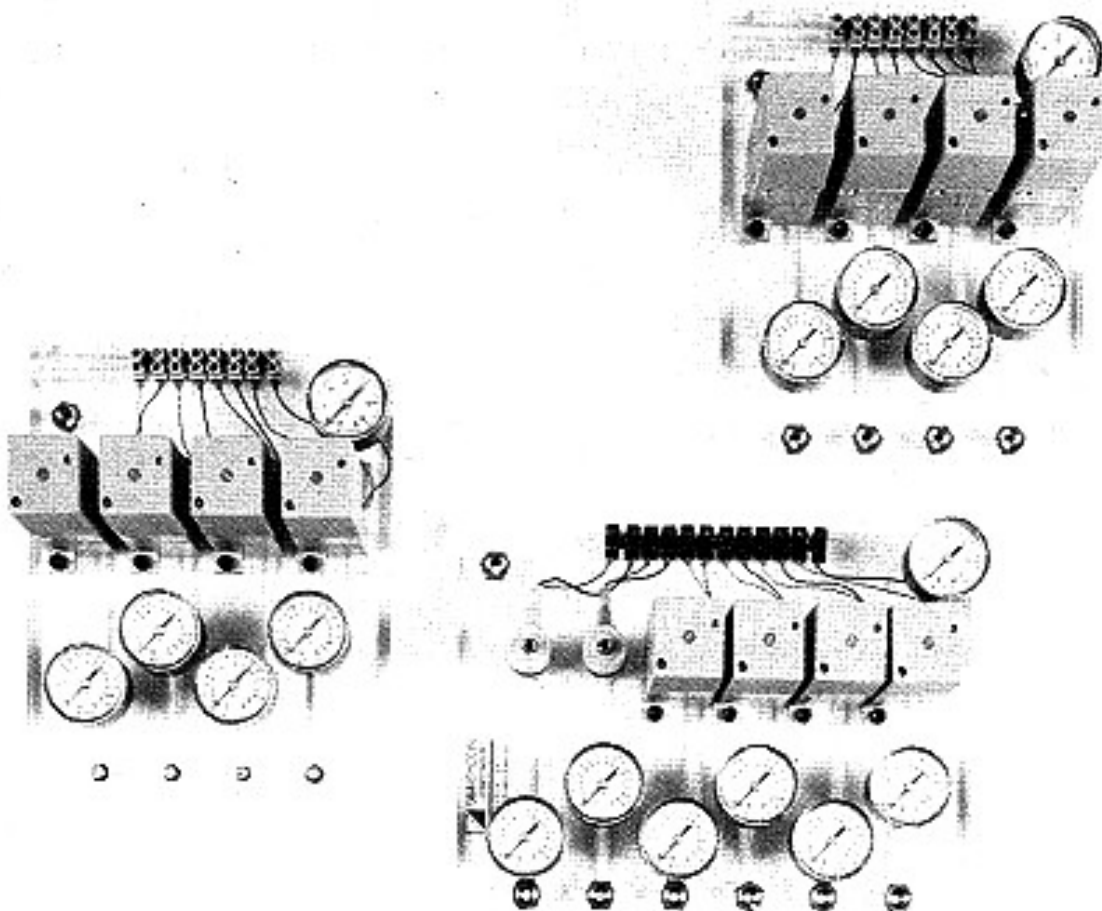
The ABB manifold board assemblies provide a cost-effective approach for mounting small quantities of I/P units. They eliminate the logistics of maintaining a multitude of pneumatic fittings and components, as well as the labor to put it all together. Engineering layout and assembly instructions are minimized as is inventory.

With one simple part number a ABB manifold board can be delivered assembled from the factory at a fraction of the cost to do so in the field. Just mount the board to a subpanel or wall mount plate, connect your electrical inputs, pneumatic outputs and a single air supply and you are ready for operation. If an assembled board is delivered with less than four I/P units or without gauges, the respective required port plugs are included. Output connections are provided as 1/8" NPT.

Manifold boards delivered assembled from the factory.

Eliminates logistics of small parts and assembly drawings and labor.

Interconnect boards for larger system.



Ordering Information FM/CSA Approved Models

Model 22/06-61 (Twin) Rack Mount Cards - FM & CSA Approved

Input	Output	Order Number
4-20 mA	3-15 psi	5220661 102750
4-20 mA	1-18 psi	5220661 102752
4-20 mA	3-27 psi	5220661 102751
4-20 mA	6-30 psi	5220661 102754

Model 22/06-65 DIN Rail and Manifold Block Units - FM & CSA Approved

DIN Rail Units		
Input	Output	Order Number
4-20 mA	3-15 psi	5220665 102730
4-20 mA	1-18 psi	5220665 102732
4-20 mA	3-27 psi	5220665 102731
4-20 mA	6-30 psi	5220665 102734
Manifold I/P Units for board or surface mount bottom entry		
4-20 mA	3-15 psi	5220665 102738

Manifold I/P Units for block mount (see accessories below)*		
Input	Output	Order Number
4-20 mA	3-15 psi	5220665 102738
* Connecting Block for 4 I/P's Max. 4 blocks can be linked in Series→		18391-7958243
* Terminating Block with common air supply (one required)		18391-7958251
* Terminating Block (one required)		18391-7959245

DIN Rail

CAP Type 5 1300 000 003 (per ft.) 2.50
 G Type 5 1300 000 005 (per ft.) 2.50
 (G Type standard and will be delivered if not other wise specified)

Multipoint Electro-pneumatic Input/Output Stations (IPPI I/O Stations)

(Cards mounted per customer specification at no additional charge)

Universal Stations	
Description	Order Number
19" rack with front electrical/bottom pneumatic termination, rack or wall mount. (12 modules, 24 points)	5105101 551100
19" Rack nut bar kit	5105101-barkit

Accessories	
Description	Order Number
Front Blank Panels	5105000 060993
Replacement LED (Bi-Polar, Bi-Color) (Pkg. of 5)	5105000 550001
Test Jack Lead Wires	5105000 550002

Ordering Information

Manifold Board Assemblies

Part Number for Completed Assemblies

5229900 58

Manifold board with 1/8" NPT output connection	1			
- With no I/P units mounted		0		
- With 1 I/P unit mounted		1		
- With 2 I/P units mounted		2		
- With 3 I/P units mounted		3		
- With 4 I/P units mounted		4		
(Positions without I/P mounted will have plugged I/P air supply port)				
- With no output pressure gauge mounted, (0 - 15 psi)			0	
- With 1 output pressure gauge mounted, (0 - 15 psi)			1	
- With 2 output pressure gauges mounted, (0 - 15 psi)			2	
- With 3 output pressure gauges mounted, (0 - 15 psi)			3	
- With 4 output pressure gauges mounted, (0 - 15 psi)			4	
(Positions without gauges mounted will have plugged gauge ports)				
- Without air supply pressure gauge, (0 - 30psi)				0
- With air supply pressure gauge, (0 - 30 psi)				1
(One of the air supply ports will be plugged if no air supply gauge mounted)				

EXAMPLE:

Manifold board with 1/8 NPT connections, 4 I/P units, 4 output pressure gauges and air supply pressure gauge:

Order Part Number: 5229900 581441

Components Parts List:

<u>DESCRIPTION</u>	<u>PART NUMBER</u>
Manifold board with 1/8" npt output connections	5229900 580638
I/P air supply plug (each)	5229900 580403
Air supply/output gauge part plug (each)	5229900 580405
I/P mounting screws (pkg of 10)	5229900 580406
Electrical terminal (as replacement) (each)	5229900 580407
Output pressure gauge, 0 - 15 psi	5229900 570201
Air supply pressure gauge, 0 - 30 psi	5229900 570202
Manifold I/P Unit	5220665 102738

Standard Options for all I/P Configurations:

- Reverse acting units available at no extra charge.
- Stainless steel tags available for any configuration.
- Use of a coalescing filter element is recommended with the use of all I/P products.

Ordering Information

CENELEC Approved Models:

	1 8 3 1 1 -	06	07	08	09	10	11	12
SIGNAL CONVERTER		└─┬─┘						
Certifications								
ATEX EEx ia IIC, Control Room Housing Unit, IP 20 for rail mounting	31							
ATEX EEx ia IIC, 19" slide-in unit, 1 signal unit, quick-release fastener	32							
ATEX EEx ia IIC, 19" slide-in unit, 1 signal unit, screwed	33							
ATEX EEx ia IIC, 19" slide-in unit, 2 signal unit, quick-release fastener	34							
ATEX EEx ia IIC, 19" slide-in unit, 2 signal unit, screwed	35							
Input Signal								
0-20 mA	1							
4-20 mA	2							
Other (see supplementary BA No. 503 and 504)	0							
Output								
0.2 - 1 bar	1							
3-15 psi	2							
Others (see supplementary BA No. 508, 509, 511 and 512)	0							
Characteristic								
Direct-action	1							
Reverse-action	2							
Unused	0							
Ambient Temperature								
-40 to +85°C	1							
-55 to +85°C	2							

Additional Ordering Information

Catalog Number

Input signal, 4-12 mA	503
Input signal, 12-20 mA	504
Output signal, 0.4 - 2 bar	508
Output signal, 6-30 psi	509
Output signal, 1-18 psi	511
Output signal, 3-27 psi	512

Accessories

Cable gland, brass, M20 x 1.5 thread pressure-proof cable entry, EEx d 0319343

Instruction Bulletin (*one copy is supplied, at no charge, with order*) 42/18-46-3 XA

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