General Specifications

PRESSURE SENSOR MODULES

Pressure Measurement Modules for use with
YPC 4000 and YPC 4010

Pressure Sensor Modules from Yokogawa are available in a several types and ranges to provide the ultimate in flexibility and convenience for calibration standards. The pressure modules are used with any **YPC 4000 Series Multi-Function Tester** by installing modules into any of three (3) YPC sensor bays. The modules are completely interchangeable and can also be hot-swapped, when needed, to facilitate most any pressure testing needs (restrictions on module installation and removal apply to Intrinsically Safe YPC units).

NIST traceable accuracy of ± 0.025% FS is available for most pressure ranges and types. This accuracy statement includes all effects of linearity, hysteresis, repeatability and temperature from 23° F to 122° F (no partial temperature compensation here!). A NIST certificate and calibration data are included with each module for quality assurance purposes. A reduced specification of ± 0.025% FS ± 0.004% FS per °F (Ref. Temp. = 70° F) is also available for most pressure ranges. This specification offers customers a cost savings with virtually the same measurement accuracy when used in conditioned or temperate environments.

Calibration coefficients for all modules are stored in non-volatile sensor module memory. This means any pressure module can be used in any Yokogawa YPC without manual programming of coefficients. When a module is installed or the YPC is powered up, the YPC senses the module bay connection, polls the module for the calibration coefficients and configures the display for pressure readout in the last engineering unit selected. Engineering units, including PSI, centimeters or inches of H_2O (at 4°C, 20°C, or 60°F), kg/cm2, kPa, mBars, Bars, millimeters or inches of Hg (at 0°C ref. temp), are all selectable from the YPC keypad.

Yokogawa sensor modules are designed to be re-calibrated in the field with appropriate local calibration standards. The YPC's Rcal feature allows customers to adjust zero (offset) and full scale (gain) plus up to seven (7) additional points on the calibration curve. Dead weight testers are generally used to apply a known pressure to a module. The Rcal feature allows the user to key in the applied pressure value, which lets the module know how to correct its calibration curve. Yokogawa also provides factory re-calibration services for pressure modules including complete documentation and certification.

Certifications Available

- CE Mark (standard)
- NIST traceability certificate (standard)
- Intrinsically Safe, MET Laboratories per CSA C22.2 & UL Class I Division I (standard on all pressure modules)

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Available Pressure Modules

Accuracy	Model	Pressure range	Type
±.10% *	FDN0010-01	0-10" H_2O	Differential
	FDN0020-01	0-20" H_2O	Differential
	xDN0100-01	0-100" H_2O	Differential
	xDN0200-01	0-200" H_2O	Differential
±.025% *	xDN0400-01	0-400" H_2O	Differential
	xDN2000-01	0-2000" H_2O	Differential
OR	xGI0020 -01	0-20 PSIG	Gauge
	xGI0200 -01	0-200 PSIG	Gauge
±.025%	xGI0500 -01	0-500 PSIG	Gauge
±.004%	xGI1000 -01	0-1000 PSIG	Gauge
FS / °F	xGI1500 -01	0-1500 PSIG	Gauge
	xGI2000 -01	0-2000 PSIG	Gauge
	xAI2000-01	0-2000 mm Hg	Absolute
	xAI0900-01	0-900 mm Hg	Absolute
	xAI5200-01	0-100 PSIA	Absolute
±.05% *	GGI3000-01	0-3000 PSIG	Gauge

* Includes all effects of linearity, hysteresis, repeatability and temperature from 23° F to 122° F

where x = D for ±0.025% FS with full temp compensation
E for ±0.025% FS ±0.004% FS per °F

Specification

Temperature:
Storage: -40° F to 140° F (-40° C to 60° C)
Operating: 23° F to 122° F (-5° C to 50° C)

Model codes and uses
xDN: Differential Non-isolated – clean, dry, non-corrosive gases only
xGI: Gauge Isolated – medias compatible with 316SS
xAI: Absolute Isolated – medias compatible with 316SS

NIST Traceable Accuracy:
See specification in Table above

Connections: 1/8" FNPT, 316ss

Pressure limits:
xGI / xAI modules: 2X range / 316ss compatible
xDN modules: 2X range when pressurized on high side only, 150 PSI when applied simultaneously to high and low sides

Accessories
P/N A900529-00015 VMA Test Lead Kit - banana plugs on 9" breakouts both ends, assorted connectors

P/N B34686 961P pressure pump with integral variator, bleed valve, 1/8" FNPT connection, 0 - 145 PSIG
P/N B34700 961V vacuum pump with integral variator, bleed valve, 1/8" FNPT connection, -650 mm Hg

P/N A34386 Low Pressure Connector Kit (not for use above 250 PSIG)
P/N A34102 1/8" O.D. tubing to 1/8" MNPT connector (not for use above 250 PSIG)
P/N A34112 1/8" O.D. tubing union tee (not for use above 250 PSIG)
P/N A34099-1 1/4" MNPT X 1/8" FNPT reducer bushing, brass
P/N A34103-2 10 ft of 1/8" O.D. nylon tubing (not for use above 250 PSIG)
P/N A36856 Push to read equalizing manifold for DP modules, brass, 1/8"FNPT connections

P/N A900020-90502 High Pressure Connection Kit, 3' hose (not for use above 9,000 PSIG)
P/N A900020-90503 High Pressure Connection Kit, 1' hose (not for use above 9,000 PSIG)
P/N A900020-90501 5 pcs 1/4" MNPT x HP Quick Connect Fitting (not for use above 9,000 PSIG)
P/N A900436-00001 1 pcs 1/8" MNPT HP Quick Connect fitting (not for use above 9,000 PSIG)

Pressure Module Units Resolution Table No. 1

Press. Unit	10" WC	20" WC	200" WC	400" WC	2000" WC	20 PSIG	200 PSIG	500 PSIG	1000 PSIG
mm Hg	xx.xxx	xx.xxx	xxx.xx	xxx.xx	xxxx.x	xxx.xx	xxxx.x	xxxx.x	xxxx.x
in. Hg	x.xxxx	x.xxxx	xx.xxx	xx.xxx	xxx.xx	xx.xxx	xxx.xx	xxx.xx	xxx.xx
cm H_2O	xx.xxx	xx.xxx	xxx.xx	xxx.xx	xxxx.x	xxx.xx	xxxx.x	xxxx.x	xxxx.x
Bar	x.xxxx	x.xxxx	x.xxxx	x.xxxx	xx.xxx	x.xxxx	xx.xxx	xx.xxx	xx.xxx
mBar	xx.xxx	xx.xxx	xxx.xx	xxx.xx	xxxx.x	xxx.xx	xxxx.x	xxxx.x	xxxx.x
KPa	xx.xxx	xx.xxx	xxx.xx	xxx.xx	xxxx.x	xx.xxx	xxx.xx	xxx.xx	xxx.xx
Kg/cm_	x.xxxx	x.xxxx	x.xxxx	x.xxxx	xx.xxx	x.xxxx	xx.xxx	xx.xxx	xx.xxx
inH_2O 4°C	xx.xxx	xx.xxx	xxx.xx	xxx.xx	xxxx.x	xxx.xx	xxxx.x	xxxx.x	xxxx.x
inH_2O 60°C	xx.xxx	xx.xxx	xxx.xx	xxx.xx	xxxx.x	xxx.xx	xxxx.x	xxxx.x	xxxx.x
inH_2O 20°C	xx.xxx	xx.xxx	xxx.xx	xxx.xx	xxxx.x	xxx.xx	xxxx.x	xxxx.x	xxxx.x
PSI	x.xxxx	x.xxxx	xx.xxx	xx.xxx	xxx.xx	xx.xxx	xxx.xx	xxx.xx	xxx.xx

Pressure Module Units Resolution Table No. 2

Press. Unit	1500 PSIG	2000 PSIG	3000 PSIG	900mm Hg Abs	2000mm Hg Abs	5200mm Hg Abs
mm Hg	xxxx.x	xxxxx	xxxxx	xxxx.x	xxxx.x	xxxx.x
in. Hg	xxx.xx	xxxx.x	xxxx.x	xxx.xx	xxx.xx	xxx.xx
cm H_2O	xxxx.x	xxxxx	xxxxx	xxxx.x	xxxx.x	xxxx.x
Bar	xx.xxx	xxx.xx	xxx.xx	xx.xxx	xx.xxx	xx.xxx
mBar	xxxx.x	xxxxx	xxxxx	xxxx.x	xxxx.x	xxxx.x
KPa	xxx.xx	xxxx.x	xxxx.x	xxx.xx	xxx.xx	xxx.xx
Kg/cm_	xx.xxx	xxx.xx	xxx.xx	xx.xxx	xx.xxx	xx.xxx
inH_2O 4°C	xxxx.x	xxxxx	xxxxx	xxxx.x	xxxx.x	xxxx.x
inH_2O 60°C	xxxx.x	xxxxx	xxxxx	xxxx.x	xxxx.x	xxxx.x
inH_2O 20°C	xxxx.x	xxxxx	xxxxx	xxxx.x	xxxx.x	xxxx.x
PSI	xxx.xx	xxxx.x	xxxx.x	xxx.xx	xxx.xx	xxx.xx