

GEMS SENSORS

OPERATING & INSTALLATION INSTRUCTIONS

PSIBAR

(1200 SERIES / 1600 SERIES)

PLEASE READ CAREFULLY BEFORE INSTALLING

PART NUMBER: 560550-0065

ISSUE A

INTRODUCTION

PSIBAR high output pressure transducers and transmitters are fitted with a hybrid amplifier providing various optional (at time of order) voltage outputs, and a 4-20mA current output capable of being used in control and indicating loops without further amplification.

PSIBAR with the CE Mark conform with the essential protection requirements of the EMC Directive 89/33/EEC amended by certified type testing to EN 50082-2 and EN 50081-1.

Conformity with the requirements of the CE mark only applies when the installation conditions described in these instructions have been met. For units supplied without a cable assembly connection to the transducer must be accomplished using Gems Sensors approved cable. See APPROVED CABLE section.

GENERAL

- Pressure range must be compatible with the maximum pressure being measured.
- Pressure media must be compatible with the transducer/transmitter wetted parts (see below)
- Liquid must not be allowed to freeze in the pressure port.
- The gasket must be fitted under the electrical connector.

MECHANICAL INSTALLATION

Omni-directional, self supported directly into the pipework. Use a 19mm AF (3/4") spanner on the hexagon provided to apply a maximum torque of 15.8Nm.

WETTED PARTS

316 & 17-4 PH stainless steel plus Nickel Braze to BS1845 : NK3/HTN2.

ELECTRICAL INSTALLATION

All types with the CE Mark include suppression devices providing transient protection to EN 61000-4-2 and EN 61000-4-4. Conformity with the requirements of the CE mark only applies when connection is made with Gems Sensors approved cable, see APPROVED CABLE section, and is connected with the screen of the cable earthed at the instrumentation end. If an 'Earth Loop' problem is encountered when the body of the unit is earthed by the pipework it is permissible to remove the cable screen from the instrumentation earth.

TABLE 1
PSIBAR CONNECTIONS

TYPE NUMBER	CE	CONNECTOR	4-20mA			VOLTAGE			
			IN+	IN-	EARTH	IN+	COM	OUT+	EARTH
1200X-A3	Yes	Mini Connector	1	2	E	1	2	3	E
1200X-D3	Yes	Cable Europe	R	BK	DRAIN	R	BK	W	DRAIN
1200X-F3	Yes	Cable Weatherproof	R	BL	DRAIN	R	W	Y	DRAIN
1200X-23	Yes	Cable USA	R	BK	DRAIN	R	BK	W	DRAIN
1600X-13	Yes	8-4P	A	B	D	A	C	B	D
1600X-C3	Yes	10-6P	A	B	E	A	C	B	E
1600X-G3	Yes	Large DIN	1	2	E	1	2	3	E

OUTPUT	SUPPLY VOLTAGE
B 4 to 20mA	7 to 35V d.c.
C 1 to 6V	7.5 to 35V d.c.
D 1 to 11V	12.5 to 35V d.c.
H 1 to 5V	6.5 to 35V d.c.
J 0.5 to 5.5V	7 to 35V d.c.
R 0 to 5V	6.5 to 35V d.c.
G 0 to 10V	11.5 to 35V d.c.

APPROVED CABLE

Gems sensors uses cables comprising 2, 3 or 4 colour-coded cores, enclosed by an aluminised polyester screen where the screen is in intimate contact with a separate drain wire. The outer sheath is chrome PVC and overall diameter is approximately 4 mm.

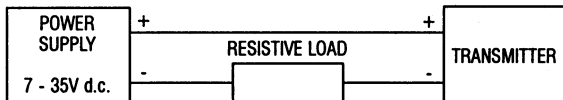
OPERATION

Having installed the transducers as instructed, they are ready for use. Before applying power, check that the correct polarity and excitation levels are being applied.

LOAD CHARACTERISTICS (4-20mA Current Output)

The total resistive load in the loop (to include all the cable resistance) can be from 'zero to 50 x (supply volts - 7) ohms' e.g. with a 24V d.c. supply the permissible load is from zero up to 850 ohms.

FIGURE 1



WARRANTY

These products are tested and supplied in accordance with our published specifications or individual special requirements that are agreed in writing at time of order. They are constructed so as not to affect adversely the safety of persons and property, when properly installed, maintained and used by qualified personnel, in the applications for which they were designed and manufactured.

We guarantee this instrument against faulty workmanship and material for a period of one year from date of delivery. The Company undertake to repair, free of charge, ex-works any instrument found to be defective within the specified period providing the instrument has been used within the specification in accordance with these instructions and has not been misused in any way.

Detailed notice of such defects and satisfactory proof thereof must be given to the Company immediately after the discovery and the goods are to be returned free of charge to the Company, carefully packed and accompanied by a detailed failure report See "RETURN TO FACTORY".

WETTED PARTS

17-4 PH stainless steel plus Nickel Braze to BS1845 : NK3/HTN2.

SERVICING

The transducer cannot be repaired locally and if damaged should be returned to ourselves at the address shown below or to accredited dealers when a replacement/repair is required:

GEMS SENSORS LTD
LENNOX ROAD
BASINGSTOKE
HANTS
RG22 4AW

GEMS SENSORS INC
1 COWLES ROAD
PLAINVILLE, CT 06062
U.S.A

RETURN TO FACTORY

PLEASE NOTE: To comply with Health and Safety requirements, the instrument must be clean and safe to handle and accompanied by a formal statement to that effect duly signed by an authorised officer of the Company.

Any instrument returned without certification will be quarantined and no action will occur until cleared. It may ultimately be returned to you and subject to a transportation charge.

EC DECLARATION OF CONFORMITY

MANUFACTURERS NAME: Gems Sensors Ltd.

MANUFACTURERS ADDRESS: Lennox Road, Basingstoke,
Hampshire, RG22 4AW

PRODUCT TYPES: PSIBAR

DESCRIPTION: Pressure Transmitters and
High Output Transducers

DATE OF ISSUE: 12th November 1997

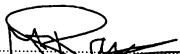
Gems Sensors Limited hereby declares that the product(s) above conform with the essential protection requirements of the following EC Directives.

EMC: 89 336 EEC amended by 93 68 EEC by compliance to EN 50083-2, EN 50081-1 and EN 50081-2

SAFETY: "For the equipment within which this component is installed to comply with the Low Voltage Directive (73 23 EEC) this product must be powered from a Safety Extra Low Voltage (SELV) source of 42V peak maximum.

When the power source is derived from a transformer this must conform to EN 60743 or equivalent, with intrinsic short circuit protection. The power source to this component must also incorporate suitable over-current protection related to the current rating of this component"

This apparatus must not be put into service until the equipment into which it is to be incorporated has been declared in conformity with the provisions of the relevant New Approach Directive.


Signed for and on behalf of
Gems Sensors Limited

Michael J Powers
Head of Engineering
England