



**INSTALLATION DATA MANUAL**  
**MODEL 570/770/870 PRESSURE TRANSMITTERS**  
**MODEL LP770 PRESSURE TRANSMITTER**

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## COMPANY BACKGROUND

Viatran is an ISO 9001:2008 certified company committed to providing high quality pressure transducers and transmitters. Established more than 40 years ago, Viatran has built its reputation on providing durable, and accurate pressure sensing devices. Our products are often specifically specified by integrators and engineering firms for applications ranging from the offshore oil rigs to tank and well level measurement. Viatran is often called for custom modifications for applications where standard products are not available.

## TECHNICAL SUPPORT

Technical assistance is available Monday – Friday 8:00 AM to 5:00 PM (Eastern) from our knowledgeable factory personnel to answer any of your application or installation questions. Our toll-free number is 1-800-688-0030. Questions or additional documentation can also be requested via e-mail at solutions@viatran.com.

## CUSTOMER SERVICE

Orders for additional units or accessories can be placed by calling customer service at 1-800-688-0030 or by fax at 1-716-693-9162. Orders can also be placed by contacting a local representative in your area. To find the nearest representative, visit our web site at [www.viatran.com](http://www.viatran.com).

## PRODUCT OVERVIEW

All information contained in this document is representative of a standard Model 570/770/870 and LP770. If the product you ordered has special requirements or modifications, refer to the permanently marked information on the product and you purchase order for possible alteration to the product's configuration. Failure to verify product configuration before installation may cause permanent product damage and in most cases, void the manufacturer's product warranty. If you are unsure or have questions about you product, please contact our Application Engineers for assistance.

Remove and retain all instruction manuals and performance certificates that are shipped with the product. These documents provide important information on the product's calibration, operation, safety precautions, recommended maintenance, re-calibration requirements, repair service instructions and warranty information. These documents are updated from time to time as changes to the product occur and should be reviewed at receipt so that proper and safe installation can occur.

## BASIC OPERATION

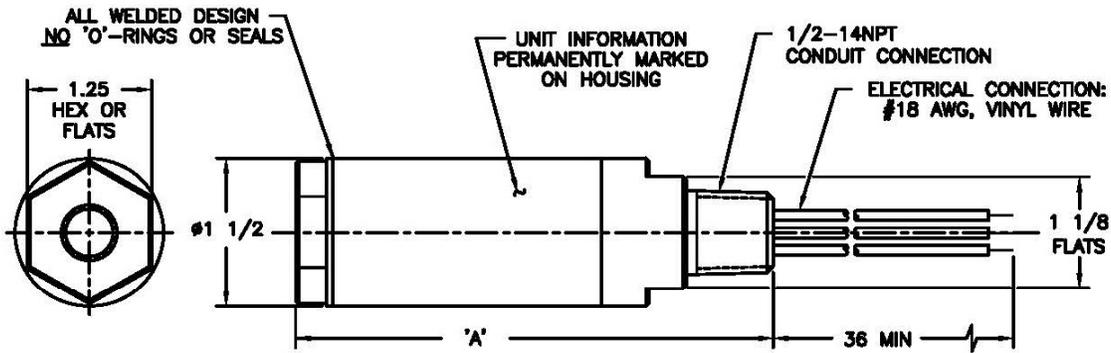
The "70" Series has been pre-set at the factory for the required output. Typical outputs are 4-20 mA, 0-5 VDC (1-5 VDC on LP770) and 2 mV/Volt. With the exception of absolute units, which are referenced to absolute zero (full vacuum), all other products are referenced to atmospheric pressure (zero PSIG). Once factory set, the product should perform as indicated by the performance certificate and product labeling. In all cases the zero and span cannot be externally adjusted, hence any deviation from the factory settings would indicate damage to the sensor, electronics, or both.

- A. For compound ranges with a voltage output, (a negative pressure to a positive pressure, ie. -15 to +50), the zero balance will occur and be set for zero PSIG. For the compound range the output of the transmitter will be split between the plus and minus pressure ranges with respect to zero. The output would be plus or minus depending on the type of pressure applied to the pressure port. For compound ranges with a 4-20 mA output, where an output is required at a negative pressure (ie. -15 to +50) the zero balance will be set at the negative pressure (ie. 4 mA at -15 and 20 mA at +50 PSI).
- B. Output for sealed units will go positive with positive pressure applied to the pressure port.
- C. For absolutes, the pressure port must have a full vacuum applied to reach the absolute zero point. After the full vacuum is applied, the unit will begin to read positive pressure changes as less and less of a vacuum is evident at the pressure port.

# INSTALLATION DATA - VIATRAN MODEL 570/770/870/LP770

Note: The drawing below is for informational purposes only and is not to scale.

All dimensions are nominal, in inches and for reference purposes only.



RANGE (PSI/A/G)	'A' (OVERALL LENGTH)			
	570	770	870	LP770
0-50 THRU 0-15,000	5.00	5.29	5.19	5.00
0-20,000 THRU 0-50,000	5.22	5.50	5.32	5.38
0-60,000 THRU 0-100,000	5.97	6.25	6.06	6.13

**Sensor Construction:**

Bonded Foil Strain Gage

**Wetted Materials:**

< 20K PSI: 15-5 PH SST

≥ 20K PSI: 13-8 Mo SST

**Pressure Connection**

(Recommended Torque):

50 - 15K PSI: 1/4" NPT female (about 3 full turns after finger tight)

20K - 50K PSI: AE type F250C (25 FT-LBS)

60K - 100K PSI: AE type F312C150 (70 FT-LBS)

**Electrical Mating Connection:**

Acceptable 18AWG wire termination connection - 1/2" NPT(M)

**Output:**

570: 4-20 mA

770: 0 to 5 VDC

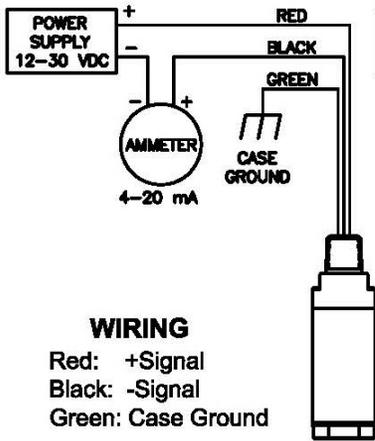
LP770: 1 to 5 VDC

870: 2.0 mV/V (0-15K PSI)

1.2 mV/V (20K-100K PSI)

## CONNECTION DIAGRAMS & WIRING

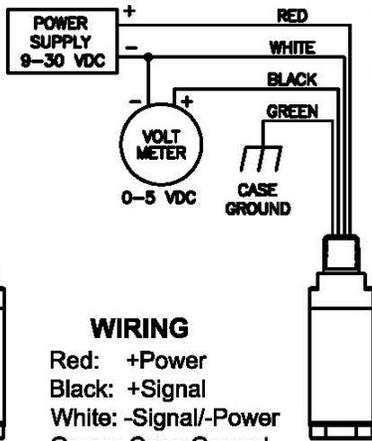
**MODEL 570**



**WIRING**

Red: +Signal  
Black: -Signal  
Green: Case Ground

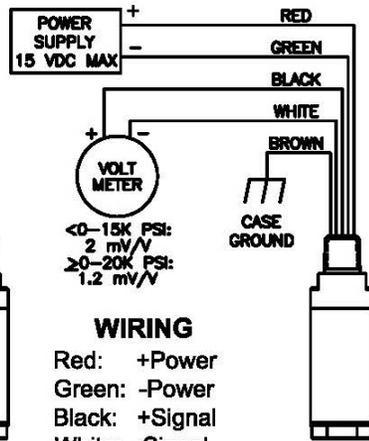
**MODEL 770**



**WIRING**

Red: +Power  
Black: +Signal  
White: -Signal/-Power  
Green: Case Ground

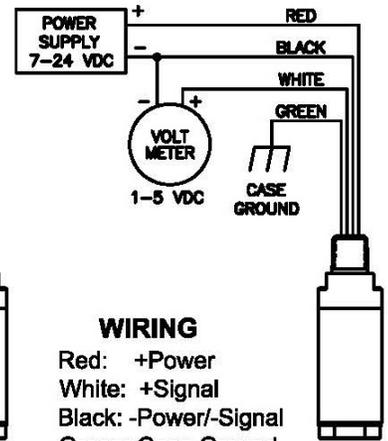
**MODEL 870**



**WIRING**

Red: +Power  
Green: -Power  
Black: +Signal  
White: -Signal  
Brown: Case Ground

**MODEL LP770**



**WIRING**

Red: +Power  
White: +Signal  
Black: -Power/-Signal  
Green: Case Ground

*Note: If the unit is certified for hazardous locations as Intrinsically Safe, use the enclosed connection diagram. Only the pressure transmitter is considered to have the Factory Mutual, CSA or ATEX safety ratings. If you have purchased a transmitter and isolator/remote seal, they have not been tested as a system for safety certification. The end-user shall be responsible for verifying the system is safe and installed accordingly.*

## INSTALLATION REQUIREMENTS AND CAUTIONS

1. All electrical & pressure connections should be compatible with specifications outlined above.
2. Installation should occur only after electrical (input power) and line pressure is off and at zero.
3. The product's internal electrical circuitry is isolated from case ground. It is not recommended that the case or ground of the unit be connected to the input, output, or calibrate pins of the product or wiring system. Ground loops and line noise will affect the product's performance and may cause internal electrical failure.
4. All products should be protected from direct or continued exposure to fluids at the electrical connection. The electrical connections on the Models 570, 770, 870, and LP770 have been designed to be terminated in a junction box or encased in conduit. In applications where moisture or fluid contamination is possible, the use of an application approved connection box is recommended for connection termination.
5. Use care when handling the unit by the connection wires. Continued or constant movement of the connection wires at the area of sealant might cause the seal to break. If the seal fails, internal contamination and product failure will occur.
6. When installing the unit to a pressure or electrical connection, only use the wrench flats closest to the end being installed. If the unit is being installed on a pressure pipe, only use the 1-1/4" wrench flats at the end where the pressure port is located, not the 1-1/8" flats at the electrical end.
7. At no time should an object be inserted into the pressure port or pressed against the sensing area to deflect the sensor (to test or simulate pressure), as permanent damage to the sensing diaphragm may occur.
8. To preserve the integrity of the hermetic design, the units have no field replaceable or repairable parts.
9. When shipped in quantities, units should be packaged individually to eliminate possible damage.
10. The "70" Series can be provided with a variety of pressure fittings. The units should be mounted using an anti-galling product on the threads that is compatible with the media being measured. If your unit is equipped with a NPT female pressure port, it should be mounted to 20 ft-lbs. of torque to ensure proper trim. Always check for process leaks after installation.

## CONDITION OF USE

1. Equipment will be installed only with wiring systems not requiring earth connection. e.g. Metal conduit or armored cable (See Note #3 above).
2. Ex db certified sealing device shall be used between the equipment and wiring system.

## MAINTENANCE AND REPAIR

Viatran transmitters are designed to function free from routine or scheduled maintenance. Simple cleaning of the electrical connector, pressure port threads, and pressure cavity on an as needed basis will provide years of satisfactory performance. Protecting the product from continued exposure to moisture or fluids at the electrical connection, breather area (model dependent) will eliminate premature internal failure of the product. Whenever the product is removed from service, the connector and pressure port threads should be cleaned and the pressure cavity flushed with a stainless steel compatible cleaner to prevent media buildup. A lint-free cloth is recommended for cleaning. Cleaning with a coarse or stiff bristle can damage the diaphragm surface.

It is suggested that the calibration be verified on a usage dependent schedule. If the product is in continuous service 7 days a week, calibration verification may be necessary every 6 to 8 months. If the product is in a lab test environment, a more lenient verification schedule would be appropriate. In all instances, the performance of the product will depend on the individual application or process in which it is installed. More continued usage would require a shorter period between calibration verification and product maintenance.

If a product is perceived to be exhibiting problems, it may be returned to Viatran for analysis and/or repair. It is suggested that only Viatran personnel attempt repair of the product. Any damage resulting from customer disassembly would result in a loss of coverage under the warranty policy. All Viatran products are able to be repaired at minimal cost if simple cleaning and precautions are taken in the handling and application of the product. Older products returned for repair are updated to current specifications unless the repair cost would outweigh the cost of a new replacement model. Products returned for repair should include information on the person to contact for repair quote approval, the individual to contact if Viatran's technical staff requires additional information during analysis, and a brief description of the problem associated with the product's failure.

## WARRANTY

Viatran Corporation warrants that its products shall be free from defective workmanship and/or material for a period of twelve (12) months from the date of shipment, provided that Viatran's obligation hereunder shall be limited to correcting any defective workmanship and/or replacing any defective material f.o.b. factory. No allowance will be made for any expense incurred for correcting any defective workmanship and/or material without written consent by Viatran. This warranty is in lieu of all other warranties expressed or implied.

## REPAIR INSTRUCTIONS

Viatran's Transmitters are designed to be easily repaired and recalibrated if necessary. If a failure occurs, the transmitter should be returned to the factory for inspection and testing. Please contact the Customer Support Department at 1-800-688-0030 for a return tracking number and/or a repair cost estimate. A nominal inspection fee is charged on all units returned to the factory which are not subsequently repaired.

# OPTIONAL APPROVALS

## Model 570

570\_TF\_(A)

[All product except as noted in labels 570TF(B-D)]



APPROVED  
INT. SAFE FOR USE IN  
CL I,II,III, DIV 1, GP A,B,C,D,E,F,G  
CL I, ZN 0, AEx Ia IIC  
T4, Ta=80°C, T5, Ta=40°C  
NEMA/TYPE 4X,  
HAZ. LOC.  
INSTALL PER CD0633  
DUAL SEAL for  
Process Temps -40°F to 300°F

570\_TF\_(B)

[\*G\* Gage format and/or TB option]



APPROVED  
INT. SAFE FOR USE IN  
CL I, DIV 1, GP A,B,C,D,  
CL I, ZN 0, AEx Ia IIC  
T4, Ta=80°C, T5, Ta=40°C  
HAZ. LOC.  
INSTALL PER CD0633  
DUAL SEAL for  
Process Temps -40°F to 300°F

570\_TF\_(C)

[All product ≤299 PSIA/S/V]



APPROVED  
INT. SAFE FOR USE IN  
CL I,II,III, DIV 1, GP A,B,C,D,E,F,G  
CL I, ZN 0, AEx Ia IIC  
T4, Ta=80°C, T5, Ta=40°C  
NEMA/TYPE 4X,  
HAZ. LOC.  
INSTALL PER CD0633

570\_TF\_(D)

[All alternate electrical connections]



APPROVED  
INT. SAFE FOR USE IN  
CL I, DIV 1, GP A,B,C,D,  
CL I, ZN 0, AEx Ia IIC  
T4, Ta=80°C, T5, Ta=40°C  
HAZ. LOC.  
INSTALL PER CD0633

570\_NJ\_



570\_NZ\_(A)

[All product except as noted in labels 570NZ(B-D)]



APPROVED  
NONINCENDIVE FOR USE IN  
CL I, II & III, DIV 2,  
GP A,B,C,D,F,G  
CL I, ZN 2, GP IIC  
T4, Ta=80°C, T5, Ta=40°C  
NEMA/TYPE 4X, HAZ LOC  
DUAL SEAL  
for Process Temps -40°F to 300°F

570\_NZ\_(B)

[\*G\* Gage format and/or TB option]



APPROVED  
NONINCENDIVE FOR USE IN  
CL I, DIV 2, GP A,B,C,D  
CL I, ZN 2, GP IIC  
T4, Ta=80°C, T5, Ta=40°C HAZ LOC  
DUAL SEAL  
for Process Temps -40°F to 300°F

570\_NZ\_(C)

[All product ≤299 PSIA/S/V]



APPROVED  
NONINCENDIVE FOR USE IN  
CL I, II & III, DIV 2,  
GP A,B,C,D,F,G  
CL I, ZN 2, GP IIC  
T4, Ta=80°C, T5, Ta=40°C  
NEMA/TYPE 4X, HAZ LOC

570\_NZ\_(D)

[ZU option only]



APPROVED  
NONINCENDIVE FOR USE IN  
CL I, DIV 2, GP A,B,C,D  
CL I, ZN 2, GP IIC  
T4, Ta=80°C, T5, Ta=40°C HAZ LOC

570\_KN\_

SEE KN5321

570\_NY\_(A)

[All product ≥300 PSIS/A]



APPROVED  
EXPLOSION PROOF FOR USE  
IN CL I, DIV 1, GP A,B,C,D  
CL II/III, DIV 1, GP E,F,G  
CL I, ZN 1, AEx d IIC  
T5 at Ta=85°C NEMA 4X  
HAZ. LOC.  
Factory Sealed,  
Conduit Seal not Required  
DUAL SEAL  
for Process Temps -40°F to 300°F

570\_NY\_(B)

[All product (All Ranges) PSIG/PSN/TB]



APPROVED  
EXPLOSION PROOF FOR USE  
IN CL I, DIV 1, GP A,B,C,D  
CL II/III, DIV 1, GP E,F,G  
T5 at Ta=85°C NEMA 4X  
HAZ. LOC.  
Factory Sealed,  
Conduit Seal not Required  
DUAL SEAL  
for Process Temps -40°F to 300°F

570\_NY\_(C)

[All product <300 PSIS/A]



APPROVED  
EXPLOSION PROOF FOR USE  
IN CL I, DIV 1, GP A,B,C,D  
CL II/III, DIV 1, GP E,F,G  
CL I, ZN 1, AEx d IIC  
T5 at Ta=85°C NEMA 4X  
HAZ. LOC.  
Factory Sealed,  
Conduit Seal not Required

570\_ME\_



CERTIFIED EXPLOSION  
PROOF FOR  
CL I, DIV 1,  
GP A,B,C,D;  
CL II, DIV 1,  
GP E,F,G;  
CL III  
HAZ. LOC.  
Type 4 Encl.

570\_NG\_

[For \*S\* Sealed format and \*A\* Absolute format only]



Ex dB IIC T8...T4 Gb  
T8...T4: -20°C<Ta<80°C  
PRESAFE 16 ATEX 8250X



570\_NK\_(A)

[For < 1 Meter Wire]



Ex Ia IIC Ga  
T4: -20°C<Ta<75°C  
T5: -20°C<Ta<40°C  
Uf=28V, If=100mA  
Lj=1.2uH, Cj=34nF  
P<=1W

LCIE 03 ATEX 6373 X



570\_NK\_(B)

[For 100 Meters Wire]



Ex Ia IIC Ga  
T4: -20°C<Ta<75°C  
T5: -20°C<Ta<40°C  
Uf=28V, If=100mA  
Lj=101.2uH, Cj=34nF  
P<=1W

LCIE 03 ATEX 6373 X



570\_TK\_



Ex nA IIC T4 Gc  
(-20°C<Ta<80°C)

PRESAFE 16 ATEX 8251X



570\_NX\_(A)

[All product except as noted in labels 570NX(B)]



CSA 03.1000784  
CL I, DIV 1,  
GP A,B,C,D;  
CL II, DIV 1, GP E,F,G;  
CL III, DIV 1,  
Ex Ia IIC  
T4, Ta=80°C, T5, Ta=40°C  
Type 4 Encl.  
Per drawing CD0827

570\_NX\_(B)

[\*G\* Gage format and/or any alt. electrical connections]



CSA 03.1000784  
CL I, DIV 1,  
GP A,B,C,D;  
Ex Ia IIC  
T4, Ta=80°C, T5, Ta=40°C  
Per drawing CD0827

570\_TW\_(A)

[For Standard, ZL, ZU Only]



TC RU C-US.BH02.B.00653/18  
0Ex Ia IIC Ga X  
T4: -20°C < Ta < 80°C  
T5: -20°C < Ta < 40°C  
1Ex d IIC Gb X  
T6: -20°C < Ta < 40°C  
2Ex nA IIC Gc X  
T4: -20°C < Ta < 80°C  
METROLOGY CERT:  
OC.C.30C001.A No 73774

570\_TW\_(B)

[For all product except as noted in 570\_TW\_(A)]



TC RU C-US.BH02.B.00653/18  
0Ex Ia IIC Ga X  
T4: -20°C < Ta < 80°C  
T5: -20°C < Ta < 40°C  
2Ex nA IIC Gc X  
T4: -20°C < Ta < 80°C  
METROLOGY CERT:  
OC.C.30C001.A No 73774

OPTIONAL APPROVALS

Model 770

770\_NX\_(A)  
[All product except as noted in label 770\_NX\_(B)]



CSA 04 1507558  
CL I, DIV 1,  
GPS A,B,C,D;  
CL II, DIV 1, GPS E,F,G;  
CLS III, DIV 1,  
Ex ia IIC T4, Ta=80°C,  
T5, Ta=40°C  
TYPE 4 ENCL.  
PER DRAWING CDD649.  
DUAL SEAL

770\_NX\_(B)  
[‘G’ gage format, TH, or any alt. electrical connections]



CSA 04 1507558  
CL I, DIV. 1,  
GPS A,B,C,D;  
Ex ia IIC T4, Ta=80°C,  
T5, Ta=40°C  
PER DRAWING CDD649.



770\_TW\_(A)  
[For Standard, ZL, ZU Only]



TC RU C-US.BH02.B.00653/18  
0Ex ia IIC Ga X  
T4: -20°C < Ta < 80°C  
T5: -20°C < Ta < 40°C  
1Ex d IIC Gb X  
T6: -20°C < Ta < 40°C  
2Ex nA IIC Gc X  
T4: -20°C < Ta < 80°C  
METROLOGY CERT:  
OC.C.30C001.A No 73774

770\_TW\_(B)  
[For all product except as noted in 770\_TW\_(A)]

TC RU C-US.BH02.B.00653/18  
0Ex ia IIC Ga X  
T4: -20°C < Ta < 80°C  
T5: -20°C < Ta < 40°C  
2Ex nA IIC Gc X  
T4: -20°C < Ta < 80°C  
METROLOGY CERT:  
OC.C.30C001.A No 73774

770\_NG  
 Ex db IIC T6...T4 Gb  
T8...T4: -20°C<Ta<80°C  
PRESAFE 16 ATEX 8250X



770\_DE\_NK  
 Ex ia IIC T4 Ga  
(-20°C<Ta<80°C)  
Ui=28V, Ii=100mA  
Li=2.4µH, Ci=12nF  
Pi<1W  
PRESAFE 16 ATEX 8249X



770\_NK\_ZU  
 Ex ia IIC T4 Ga  
(-20°C<Ta<80°C)  
Ui=28V, Ii=100mA  
Li=69µH, Ci=20nF  
Pi<1W  
PRESAFE 16 ATEX 8249X



770\_DE\_NK\_ZU  
 Ex ia IIC T4 Ga  
(-20°C<Ta<80°C)  
Ui=28V, Ii=100mA  
Li=70µH, Ci=23nF  
Pi<1W  
PRESAFE 16 ATEX 8249X



770\_NK  
 Ex ia IIC T4 Ga  
(-20°C<Ta<80°C)  
Ui=28V, Ii=100mA  
Li=1.8µH, Ci=9nF  
Pi<1W  
PRESAFE 16 ATEX 8249X



770\_TF\_(A)  
[All product except as noted in labels 770TF(B-D)]



APPROVED  
INT. SAFE FOR USE IN  
CL I,II,III, DIV. 1, GPS A,B,C,D,E,F,G  
CL I, ZN 0, AEx ia IIC T4, Ta=80°C,  
T5, Ta=40°C TYPE 4X, HAZ. LOC.  
INSTALL PER CD0650  
DUAL SEAL  
FOR PROCESS TEMPS -40°F TO 300°F

770\_TF\_(B)  
[G, V formats, TB, ZU]



APPROVED  
INT. SAFE FOR USE IN  
CL I, DIV. 1, GPS A,B,C,D,  
CL I, ZN 0, AEx ia IIC T4, Ta=80°C,  
T5, Ta=40°C HAZ. LOC.  
INSTALL PER CD0650  
DUAL SEAL  
FOR PROCESS TEMPS -40°F TO 300°F

770\_TF\_(C)  
[All product ≤299 PSIA/S/V]



APPROVED  
INT. SAFE FOR USE IN  
CL I,II,III, DIV. 1, GPS A,B,C,D,E,F,G  
CL I, ZN 0, AEx ia IIC T4, Ta=80°C,  
T5, Ta=40°C TYPE 4X, HAZ. LOC.  
INSTALL PER CD0650

770-TF\_(D)  
[TH, All alternate electrical connections except ZU]



APPROVED  
INT. SAFE FOR USE IN  
CL I, DIV. 1, GPS A,B,C,D,  
CL I, ZN 0, AEx ia IIC T4, Ta=80°C,  
T5, Ta=40°C HAZ. LOC.  
INSTALL PER CD0650

770\_NZ\_(A)  
[All product except as noted in labels 770NZ(B-C)]



APPROVED  
NONINCENDIVE FOR USE IN  
CL I, II & III, DIV. 2,  
GPS A,B,C,D,F,G  
CL I, ZN 2, GP IIC  
T4, Ta=80°C, T5, Ta=40°C  
TYPE 4X, HAZ. LOC.  
DUAL SEAL  
FOR PROCESS TEMPS -40°F TO 300°F

770\_NZ\_(B)  
[‘G’ Gage format, TH, TB, ZU]



APPROVED  
NONINCENDIVE FOR USE IN  
CL I, DIV. 2, GPS A,B,C,D  
CL I, ZN 2, GP IIC  
T4, Ta=80°C, T5, Ta=40°C HAZ. LOC.  
DUAL SEAL  
FOR PROCESS TEMPS -40°F TO 300°F

770\_NZ\_(C)  
[All product ≤299 PSIA/S/V]



APPROVED  
NONINCENDIVE FOR USE IN  
CL I, II & III, DIV. 2,  
GPS A,B,C,D,F,G  
CL I, ZN 2, GP IIC  
T4, Ta=80°C, T5, Ta=40°C  
TYPE 4X, HAZ. LOC.

770\_NZ\_(D)  
[All Alt. Connectors]



APPROVED  
NONINCENDIVE FOR USE IN  
CL I, DIV. 2, GPS A,B,C,D,  
T4, Ta=80°C, T5, Ta=40°C  
HAZ. LOC.  
WARNING: DO NOT DISCONNECT THE  
CONNECTOR WHILE THE CIRCUIT IS  
LIVE WHEN A FLAMMABLE OR  
COMBUSTABLE ATMOSPHERE IS PRESENT.

770\_NY\_(A)  
[All product ≥300 PSIS/A]



APPROVED  
EXPLOSION PROOF FOR USE  
IN CL I, DIV. 1, GPS A,B,C,D  
CL II/III, DIV. 1, GPS E,F,G  
CL I, ZN 1, AEx d IIC  
T5 AT Ta=88°C TYPE 4X  
HAZ. LOC.  
FACTORY SEALED, CONDUIT SEAL NOT REQUIRED  
DUAL SEAL  
FOR PROCESS TEMPS -40°F TO 300°F

770\_NY\_(B)  
[All product (All Ranges) PSIG/PSIV/TB Option]



APPROVED  
EXPLOSION PROOF FOR USE  
IN CL I, DIV. 1, GPS A,B,C,D  
CL II/III, DIV. 1, GPS E,F,G  
T5 AT Ta=88°C TYPE 4X  
HAZ. LOC.  
FACTORY SEALED, CONDUIT SEAL NOT REQUIRED  
DUAL SEAL  
FOR PROCESS TEMPS -40°F TO 300°F

770\_NY\_(C)  
[All product <300 PSIS/A]



APPROVED  
EXPLOSION PROOF FOR USE  
IN CL I, DIV. 1, GPS A,B,C,D  
CL II/III, DIV. 1, GPS E,F,G  
CL I, ZN 1, AEx d IIC  
T5 AT Ta=88°C TYPE 4X  
HAZ. LOC.  
FACTORY SEALED,  
CONDUIT SEAL NOT REQUIRED

770\_TK  
 Ex nA IIC T4 Gc  
(-20°C<Ta<80°C)  
PRESAFE 16 ATEX 8251X



# OPTIONAL APPROVALS

## Model 870

**870\_ME**  
[PSIA/S/V units only]



CERTIFIED EXPLOSION PROOF FOR CL I, DIV. 1, GPS A,B,C,D; CL II, DIV. 1, GPS E,F,G; CL III, HAZ. LOC. TYPE 4 INCL. DUAL SEAL

**870\_NY\_(A)**  
[All product  $\geq 300$  PSIS/A]



APPROVED EXPLOSION PROOF FOR USE IN CL I, DIV. 1, GPS A,B,C,D CL II/III, DIV. 1, GPS E,F,G CL I, ZN 1, AEx d IIC T5 AT Ta=88°C TYPE 4X HAZ. LOC. FACTORY SEALED, CONDUIT SEAL NOT REQUIRED DUAL SEAL FOR PROCESS TEMPS -40°F TO 300°F

**870\_NY\_(B)**  
[All product (All Ranges) PSIG/PSN/TB Option]



APPROVED EXPLOSION PROOF FOR USE IN CL I, DIV. 1, GPS A,B,C,D CL II/III, DIV. 1, GPS E,F,G T5 AT Ta=88°C TYPE 4X HAZ. LOC. FACTORY SEALED, CONDUIT SEAL NOT REQUIRED DUAL SEAL FOR PROCESS TEMPS -40°F TO 300°F

**870\_NY\_(C)**  
[All product <300 PSIS/A]



APPROVED EXPLOSION PROOF FOR USE IN CL I, DIV. 1, GPS A,B,C,D CL II/III, DIV. 1, GPS E,F,G CL I, ZN 1, AEx d IIC T5 AT Ta=88°C TYPE 4X HAZ. LOC. FACTORY SEALED, CONDUIT SEAL NOT REQUIRED DUAL SEAL

**870\_TJ\_(A)**  
[All product except as noted in 870\_TJ\_(B)]



CSA 04 1507558 CL I, DIV. 2, GPS A,B,C,D; CL II, DIV. 2, GPS F,G; CL III, DIV. 2 T5 AT Ta=80°C TYPE 4 ENCL. DUAL SEAL

**870\_TJ\_(B)**  
['G' format or alt. electrical connections]



CSA 04 1507558 CL I, DIV. 2, GPS A,B,C,D; T5 AT Ta=60°C

**870\_NX\_(A)**  
[All product except as noted in label 870\_NX\_(B)]



CSA 04 1507558 CL I, DIV. 1, GPS A,B,C,D; CL II, DIV. 1, GPS E,F,G; CL III, DIV. 1, Ex ia IIC T4, Ta=80°C, T5, Ta=40°C TYPE 4 ENCL. PER DRAWING CD0848. DUAL SEAL

**870\_NX\_(B)**  
['G' formats or any alt. electrical connections]



CSA 04 1507558 CL I, DIV. 1, GPS A,B,C,D; Ex ia IIC T4, Ta=80°C, T5, Ta=40°C PER DRAWING CD0848.

**870\_NZ\_(A)**  
[All product except as noted in labels 870NZ(B-C)]



APPROVED NONINCENDIVE FOR USE IN CL I, II & III, DIV. 2, GPS A,B,C,D,F,G CL I, ZN 2, GP IIC T4, Ta=80°C, T5, Ta=40°C TYPE 4X, HAZ. LOC. DUAL SEAL FOR PROCESS TEMPS -40°F TO 300°F

**870\_NZ\_(B)**  
['G' Gage format, TH, TB, ZU]



APPROVED NONINCENDIVE FOR USE IN CL I, DIV. 2, GPS A,B,C,D CL I, ZN 2, GP IIC T4, Ta=80°C, T5, Ta=40°C HAZ. LOC. DUAL SEAL FOR PROCESS TEMPS -40°F TO 300°F

**870\_NZ\_(C)**  
[All product  $\leq 299$  PSIA/S/V]



APPROVED NONINCENDIVE FOR USE IN CL I, II & III, DIV. 2, GPS A,B,C,D,F,G CL I, ZN 2, GP IIC T4, Ta=80°C, T5, Ta=40°C TYPE 4X, HAZ. LOC.

**870\_NZ\_(D)**  
[All Alt. Connectors]



APPROVED NONINCENDIVE FOR USE IN CL I, DIV. 2, GPS A,B,C,D, T4, Ta=80°C, T5, Ta=40°C HAZ. LOC. WARNING: DO NOT DISCONNECT THE CONNECTOR WHILE THE CIRCUIT IS LIVE WHEN A FLAMMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.

**870\_TW\_(A)**  
[For Standard, ZL, ZU Only]



TC RU C-US.BH02.B.00653/18 OEx ia IIC Ga X T4: -20°C < Ta < 80°C T5: -20°C < Ta < 40°C 1Ex d IIC Gb X T6: -20°C < Ta < 40°C 2Ex nA IIC Gc X T4: -20°C < Ta < 80°C METROLOGY CERT: OC.C.30C001.A No 73774

**870\_TF\_(A)**  
[All product except as noted in labels 870TF(B-D)]



APPROVED INTRINSICALLY SAFE FOR USE IN CL I,II,III, DIV. 1, GPS A,B,C,D,E,F,G CL I, ZN 0, AEx ia IIC T4, Ta=80°C, T5, Ta=40°C TYPE 4X, HAZ. LOC. INSTALL PER CD0847 DUAL SEAL FOR PROCESS TEMPS -40°F TO 300°F

**870\_TF\_(B)**  
[G, V formats, TB, ZU]



APPROVED INTRINSICALLY SAFE FOR USE IN CL I, DIV. 1, GPS A,B,C,D, CL I, ZN 0, AEx ia IIC T4, Ta=80°C, T5, Ta=40°C HAZ. LOC. INSTALL PER CD0847 DUAL SEAL FOR PROCESS TEMPS -40°F TO 300°F

**870\_TF\_(C)**  
[All product  $\leq 299$  PSIA/S/V]



APPROVED INTRINSICALLY SAFE FOR USE IN CL I,II,III, DIV. 1, GPS A,B,C,D,E,F,G CL I, ZN 0, AEx ia IIC T4, Ta=80°C, T5, Ta=40°C TYPE 4X, HAZ. LOC. INSTALL PER CD0847

**870\_TF\_(D)**  
[TH, All alternate electrical connections except ZU]



APPROVED INTRINSICALLY SAFE FOR USE IN CL I, DIV. 1, GPS A,B,C,D, CL I, ZN 0, AEx ia IIC T4, Ta=80°C, T5, Ta=40°C HAZ. LOC. INSTALL PER CD0847

**870\_TW\_(B)**  
[For all product except as noted in 870\_TW\_(A)]



TC RU C-US.BH02.B.00653/18 OEx ia IIC Ga X T4: -20°C < Ta < 80°C T5: -20°C < Ta < 40°C 2Ex nA IIC Gc X T4: -20°C < Ta < 80°C METROLOGY CERT: OC.C.30C001.A No 73774

**870\_NG**  
[PSIA/S/V units only]  
Ex db IIC T6...T4 Gb T6...T4: -20°C<Ta<80°C PRESAFE 16 ATEX 8250X



2460

**870\_NK**  
Ex ia IIC T4 Ga (-20°C<Ta<80°C) Ui=28V, Ii=100mA Li=2.4μH, Ci=12nF P<=1W PRESAFE 16 ATEX 8249X



2460

**870\_NK\_ZU**  
Ex ia IIC T4 Ga (-20°C<Ta<80°C) Ui=28V, Ii=100mA Li=70μH, Ci=23nF P<=1W PRESAFE 16 ATEX 8249X



2460

**870\_TK**  
Ex nA IIC T4 Gc (-20°C<Ta<80°C) PRESAFE 16 ATEX 8251X



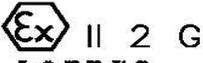
# OPTIONAL APPROVALS

## Model LP770

<p><b>LP770NY(A)</b> [All product <math>\geq 300</math> PSIA/A]</p>  <p>APPROVED EXPLOSION PROOF FOR USE IN CLASS I, DIV. 1, GROUPS A,B,C,D CLASS I/II, DIV. 1, GROUPS E,F,G CLASS I, ZONE 1, AEx d IC TS at <math>T_a=85^\circ\text{C}</math> NEMA 4X HAZARDOUS LOCATIONS Factory Sealed, Conduit Seal not Required DUAL SEAL for Process Temps <math>-40^\circ\text{F}</math> to <math>300^\circ\text{F}</math></p>	<p><b>LP770NY(B)</b> [All product (All Ranges) P592/PSM/TB Option]</p>  <p>APPROVED EXPLOSION PROOF FOR USE IN CLASS I, DIV. 1, GROUPS A,B,C,D CLASS I/II, DIV. 1, GROUPS E,F,G TS at <math>T_a=85^\circ\text{C}</math> NEMA 4X HAZARDOUS LOCATIONS Factory Sealed, Conduit Seal not Required DUAL SEAL for Process Temps <math>-40^\circ\text{F}</math> to <math>300^\circ\text{F}</math></p>	<p><b>LP770NY(C)</b> [All product <math>&lt;300</math> PSIA/A]</p>  <p>APPROVED EXPLOSION PROOF FOR USE IN CLASS I, DIV. 1, GROUPS A,B,C,D CLASS I/II, DIV. 1, GROUPS E,F,G CLASS I, ZONE 1, AEx d IC TS at <math>T_a=85^\circ\text{C}</math> NEMA 4X HAZARDOUS LOCATIONS Factory Sealed, Conduit Seal not Required DUAL SEAL for Process Temps <math>-40^\circ\text{F}</math> to <math>300^\circ\text{F}</math></p>	<p><b>LP770NZ(A)</b> [All product except as noted in labels LP770NZ(B-F)]</p>  <p>APPROVED NONINCENDIVE FOR USE IN CLASS I, II &amp; III, DIV. 2, GRPS A,B,C,D,F,G CL I, ZN 2, GRP IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> NEMA/TYPE 4X HAZ LOC DUAL SEAL for Process Temps <math>-40^\circ\text{F}</math> to <math>300^\circ\text{F}</math></p>
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<p><b>LP770NZ(B)</b> [“V” Format, TH, TB, ZU]</p>  <p>APPROVED NONINCENDIVE FOR USE IN CLASS I, II &amp; III, DIV. 2, GRPS A,B,C,D,F,G CL I, ZN 2, GRP IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> HAZ LOC DUAL SEAL for Process Temps <math>-40^\circ\text{F}</math> to <math>300^\circ\text{F}</math></p>	<p><b>LP770NZ(C)</b> [All product <math>\leq 299</math> PSIA/S]</p>  <p>APPROVED NONINCENDIVE FOR USE IN CLASS I, II &amp; III, DIV. 2, GRPS A,B,C,D,F,G CL I, ZN 2, GRP IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> NEMA/TYPE 4X, HAZ LOC</p>	<p><b>LP770NZ(D)</b> [All product with BX or ZM, except as noted in labels LP770NZ(E &amp; F)]</p>  <p>APPROVED NONINCENDIVE FOR USE IN CLASS I, II &amp; III, DIV. 2, GRPS A,B,C,D,F,G CL I, ZN 2, GRP IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> (For “ZM” only) NEMA 4X &amp; IP67 RATED OR (For “BX” only) IP67 RATED HAZARDOUS LOCATIONS for Process Temps <math>-40^\circ\text{F}</math> to <math>300^\circ\text{F}</math> Connector must be fully engaged</p>	<p><b>LP770NZ(E)</b> [“V” Format, BX, ZM]</p>  <p>APPROVED NONINCENDIVE FOR USE IN CLASS I, DIV. 2, GRPS A,B,C,D CL I, ZN 2, GRP IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> HAZARDOUS LOCATIONS for Process Temps <math>-40^\circ\text{F}</math> to <math>300^\circ\text{F}</math> Connector must be fully engaged</p>	<p><b>LP770NZ(F)</b> [All product <math>\leq 299</math> PSIA/S BX, ZM]</p>  <p>APPROVED NONINCENDIVE FOR USE IN CLASS I, II &amp; III, DIV. 2, GRPS A,B,C,D,F,G CL I, ZN 2, GRP IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> (For “ZM” only) NEMA 4X &amp; IP67 RATED OR (For “BX” only) IP67 RATED HAZARDOUS LOCATIONS Connector must be fully engaged</p>
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<p><b>LP770TF(A)</b> [All product except as noted in labels LP770TF(B-D)]</p>  <p>APPROVED INTRINSICALLY SAFE FOR USE IN CLASS I, DIV. 1, GROUPS A,B,C,D,E,F,G CLASS I, ZONE 0, AEx ic IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> NEMA/TYPE 4X, HAZ. LOC. INSTALL PER C00650 DUAL SEAL for Process Temps <math>-40^\circ\text{F}</math> to <math>300^\circ\text{F}</math></p>	<p><b>LP770TF(B)</b> [G, V formats, TB, ZU]</p>  <p>APPROVED INTRINSICALLY SAFE FOR USE IN CLASS I, DIV. 1, GROUPS A,B,C,D, CLASS I, ZONE 0, AEx ic IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> HAZARDOUS LOCATIONS INSTALL PER C00650</p>	<p><b>LP770TF(C)</b> [All product <math>\leq 299</math> PSIA/S/M]</p>  <p>APPROVED INTRINSICALLY SAFE FOR USE IN CLASS I, DIV. 1, GROUPS A,B,C,D,E,F,G CLASS I, ZONE 0, AEx ic IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> NEMA/TYPE 4X, HAZ. LOC. INSTALL PER C00650</p>	<p><b>LP770TF(D)</b> [In, All alternate electrical connections except ZU]</p>  <p>APPROVED INTRINSICALLY SAFE FOR USE IN CLASS I, DIV. 1, GROUPS A,B,C,D, CLASS I, ZONE 0, AEx ic IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> HAZARDOUS LOCATIONS INSTALL PER C00650</p>
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<p><b>LP770_NX_(A)</b> [All product except as noted in label LP770_NX_(B)]</p>  <p>CSA 04 1807888 CLASS I, DIV. 1, GRPS A,B,C,D, CLASS II, DIV. 1, GRPS E,F,G CLASS III, DIV. 1, Ex ic IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> Type 4 Encl. per drawing C00649. Dual Seal</p>	<p><b>LP770_NX_(B)</b> [“G” gage format, TH, or any alt. electrical connections]</p>  <p>CSA 04 1807888 CLASS I, DIV. 1, GRPS A,B,C,D, Ex ic IC T4, <math>T_a=80^\circ\text{C}</math>, TS, <math>T_c=40^\circ\text{C}</math> per drawing C00649.</p>	<p><b>LP770_TJ_(A)</b> [All product except as noted in label LP770_TJ_(B)]</p>  <p>CSA 04 1807888 CLASS I, DIV. 2, GRPS A,B,C,D, CLASS II, DIV. 2, GRPS F,G, CLASS III, DIV. 2, TS at <math>T_a=80^\circ\text{C}</math> Type 4 Encl. Dual Seal</p>	<p><b>LP770_TJ_(B)</b> [“G” gage format or any alt. electrical connections]</p>  <p>CSA 04 1807888 CLASS I, DIV. 2, GRPS A,B,C,D, TS at <math>T_a=80^\circ\text{C}</math></p>	<p><b>LP770NG</b></p>  <p>Ex ic IC TB...T4 Gb TS...T4: <math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math> PRESAFE 16 ATEX B240X </p>
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<p><b>LP770_NK</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) U=25V, I=100mA L=1.8mH, C=9nF Pct1W PRESAFE 16 ATEX B240X </p>	<p><b>LP770_DE_NK</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) U=25V, I=100mA L=2.4mH, C=12nF Pct1W PRESAFE 16 ATEX B240X </p>	<p><b>LP770_NK_ZU</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) U=25V, I=100mA L=80mH, C=20nF Pct1W PRESAFE 16 ATEX B240X </p>	<p><b>LP770_DE_NK_ZU</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) U=25V, I=100mA L=70mH, C=23nF Pct1W PRESAFE 16 ATEX B240X </p>	<p><b>LP770TK</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) PRESAFE 16 ATEX B251X </p>
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<p><b>LP770_NK</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) U=25V, I=100mA L=1.8mH, C=9nF Pct1W PRESAFE 16 ATEX B240X </p>	<p><b>LP770_DE_NK</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) U=25V, I=100mA L=2.4mH, C=12nF Pct1W PRESAFE 16 ATEX B240X </p>	<p><b>LP770_NK_ZU</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) U=25V, I=100mA L=80mH, C=20nF Pct1W PRESAFE 16 ATEX B240X </p>	<p><b>LP770_DE_NK_ZU</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) U=25V, I=100mA L=70mH, C=23nF Pct1W PRESAFE 16 ATEX B240X </p>	<p><b>LP770TK</b></p>  <p>Ex ic IC T4 Gb (<math>-20^\circ\text{C}</math> to <math>80^\circ\text{C}</math>) PRESAFE 16 ATEX B251X </p>
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## SPECIAL CONDITIONS FOR USE

Certificate	Type	Special Instruction
Presafe 16 ATEX 8250X	ATEX Flameproof	The pressure transmitters are constructed with permanently connected unterminated conductors and unprotected bushing. The external part of the bushing and the conductors terminated outside the flameproof enclosure shall be protected with one of the types of protection listed in EN 60079-0.
LCIE 03 ATEX 6373 X-03	ATEX Intrinsically Safe	The equipment must only be connected to certified intrinsically safe equipment. This combination must be compatible as regards intrinsic safety use
Presafe 16 ATEX 8251X	ATEX Non Incendive	"1) The external part of the bushing and the conductors terminated outside the enclosure shall be protected with one of the types of protection listed in EN 60079-0 and provide a minimum ingress protection rating of IP54.
1000784 (LR 34272)	CSA Explosion Proof	Transmitter must be powered by an approved SELV source, in accordance with CSA standard C22.2 No.1010.1, Annex H
1000784 (LR 34272)	CSA Intrinsically Safe	Connect per installation drawing.  Transmitter must be powered by an approved SELV source, in accordance with CSA standard C22.2 No.1010.1, Annex H
IECEX CSA 18.0002X	IECEX Flameproof	1. Equipment will be installed only with wiring systems no requiring an external earth connection e.g metal conduit or armored cable.  2. Ex d Certified sealing device shall be used between the equipment and wiring system.  3. Process Temperatures shall not exceed rated ambient temperature range.
Presafe 16 ATEX 8249X	ATEX IS	1. The flying leads must be protected by an enclosure of at least IP 20 when mounted.  2. Thread size and type: ½" NPT