

EZ Modulelevel®

Installation and Operating Manual



Displacer

Operated

Level/Interface

Measurement

7xxx

6xxx

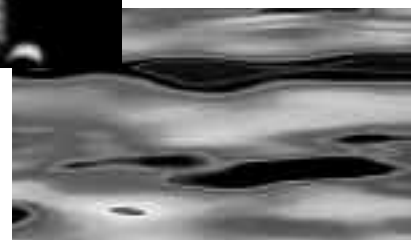
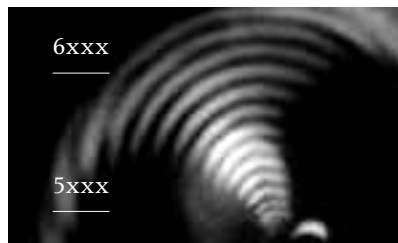
5xxx

4xxx

3xxx

2xxx

1xxx



Magnetrol®



Refer to bulletin 48-616 for EZ Modulelevel with Hart

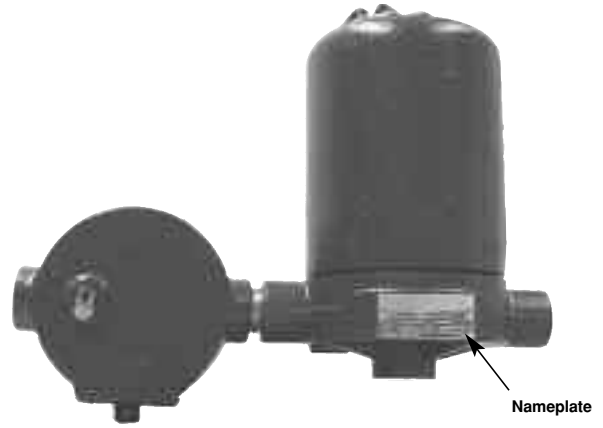
UNPACKING



These units are in conformity with the provisions of:

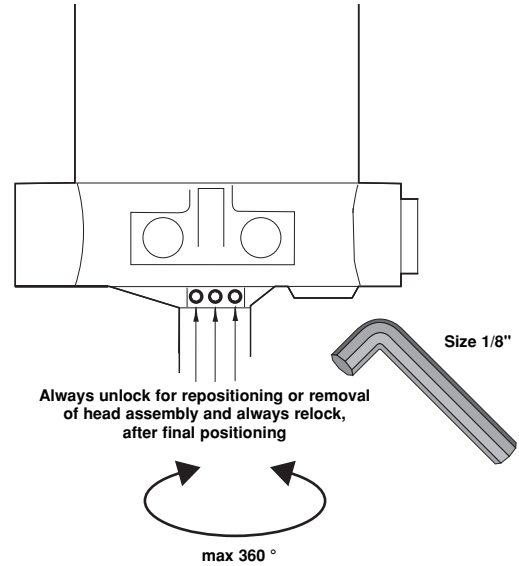
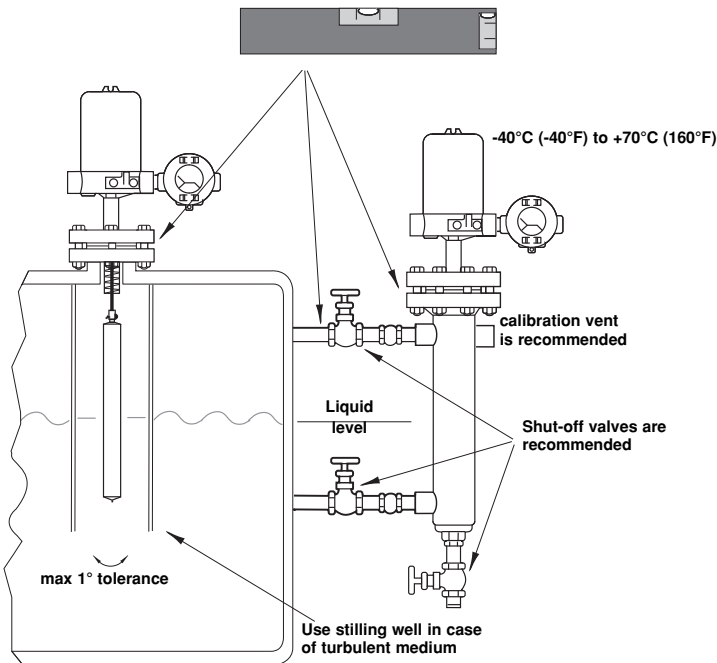
1. The EMC Directive: 89/336/EEC. The units have been tested to EN 61000-6-4/2001 and EN 61000-6-2/2001.
2. Directive 94/9/EC for Equipment or protective system for use in potentially explosive atmospheres. EC-type examination certificate number ISSeP01ATEX018.
3. The PED directive 97/23/EC (pressure equipment directive). Safety accessories per category IV module H1.

After unpacking, inspect all components to see that no damage has occurred during shipment. For top mounted units, care should be taken not to bend the displacer stem or enclosing tube during unpacking or installation.



Caution:
If re-shipping to another location, displacer must again be secured using same strap and wire assembly.

MOUNTING

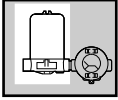


WIRING

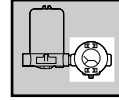
INTEGRAL UNITS

IMPORTANT

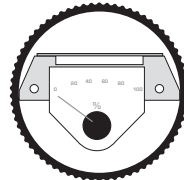
INSTRUMENT AND ELECTRICAL JUNCTION FITTING COVERS MUST BE KEPT TIGHT AT ALL TIMES DURING OPERATION.



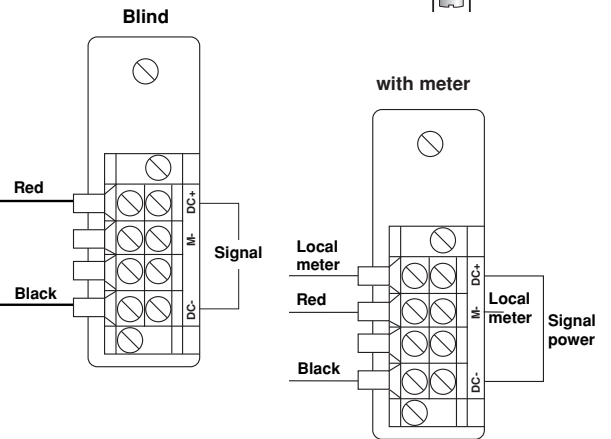
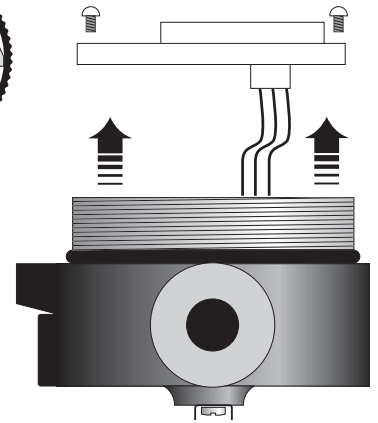
NO WIRING CONNECTIONS ARE REQUIRED INSIDE THE TRANSMITTER ELECTRONIC ENCLOSURE.



POWER TERMINALS AND LOCAL METER (IF APPLICABLE) ARE LOCATED IN THE JUNCTION BOX



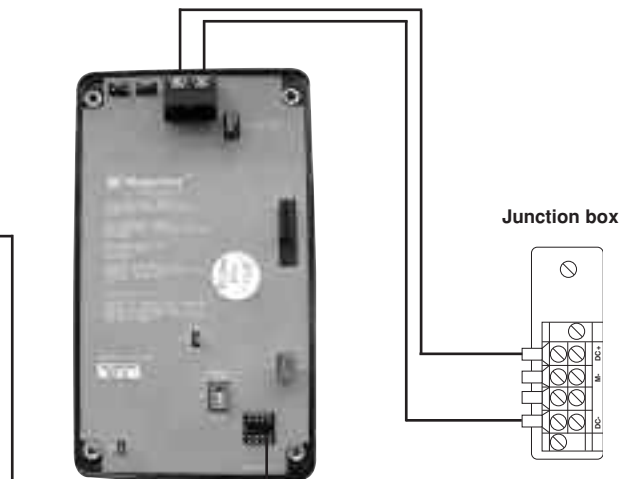
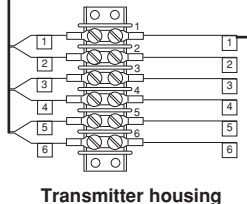
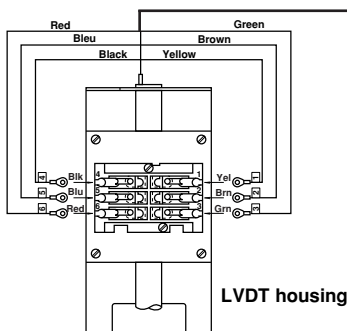
NOTE: For units with meter, pull meter out before wiring terminals can be reached.



REMOTE UNITS

The wiring of the EZ Modulelevel transmitter assembly, to the LVDT assembly, is pre-wired from factory by 6 conductor cables. When transmitter housing is remote mounted by means of a cable, use the following cables:

The 6 discrete conductors are tagged 1 through 6, and should be secured to their respective terminals on both terminal blocks.



CALIBRATION – LEVEL

OPERATING MODE

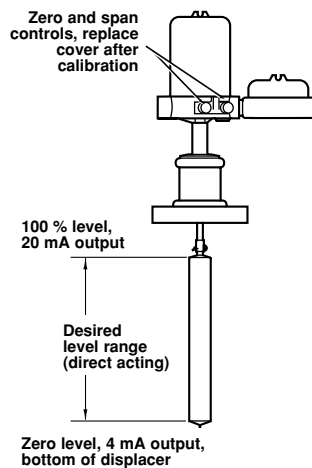
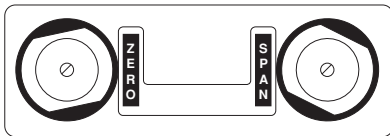
EZ Series transmitters are factory set in the direct acting mode (a rising level increases output signal 4-20 mA). If reverse acting mode is required remove transmitter housing cover *carefully* and position direct-reverse switch on printed circuit board to 'reverse'.

CALIBRATION USING PUSHBUTTONS

NOTE: Default Error signal setting from factory = 22 mA.

Direct action 4 to 20 mA at rising level:

1. Calibrate 4 mA/0 % level
Rotate «ZERO» control until the local meter (use a multimeter for blind transmitters) reads 4 mA or 0 %.
2. Calibrate 20 mA/100 % level:
Rotate «SPAN» control until the local meter (use a multimeter for blind transmitters) reads 20 mA or 100 %.
3. In case 100 % level cannot be established:
Establish liquid level at highest possible level.
Rotate the «SPAN» control until loop signal corresponds with % of actual level.
eg. 80 % level should match:
 $(20 \text{ mA} - 4 \text{ mA}) \times 80 \% + 4 \text{ mA} = 16.8 \text{ mA}$.

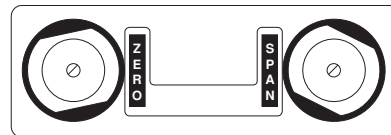


TESTING on BENCH CALIBRATOR

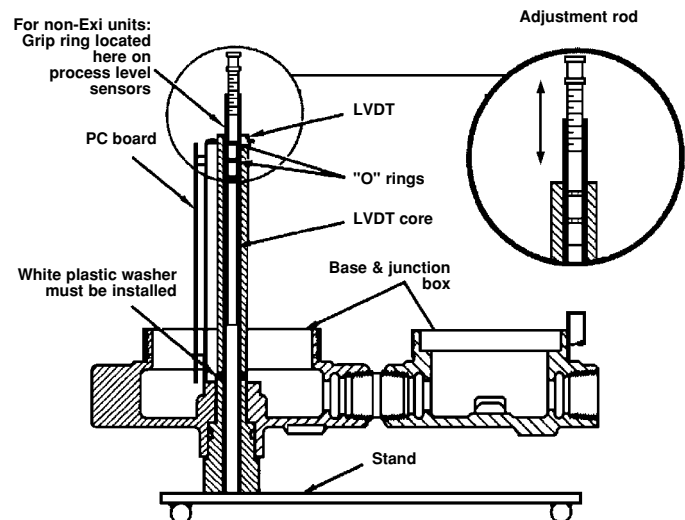
The EZ Module level bench calibrator is designed to test the electronics of the unit. The bench calibrator can also be used for calibration purpose but the calibration requires fine tuning versus actual levels in the field.

Slide the electronic head over the open topped enclosing tube, making sure that the white plastic washer is in place.

1. Calibrate 4 mA/0 % level:
Slide the adjustment rod completely down into the enclosing tube.
Rotate «ZERO» control until the local meter (use a multimeter for blind transmitters) reads 4 mA or 0 %.
2. Calibrate 20 mA/100 % level:
Align the scale of the adjustment rod with the SG of your medium.
Rotate «SPAN» control until the local meter (use a multimeter for blind transmitters) reads 20 mA or 100 %.



Ordering code: 031-6107-001



NOTE: Reverse action: Maintain the same procedure as above described but calibrate 4 mA as 100 % level (adjustment rod aligned with specific gravity) and 20 mA as 0 % level (adjustment rod entirely in LVDT core)

IMPORTANT

BENCH CALIBRATION DOES NOT COMPENSATE FOR ELAVATED TEMPERATURES

Specific gravity needs to be set in function of selected unit (see partnumber) to establish 100 % level output:

E8x-J/M/A/D/Qxxx-Exx =	align adjustment rod with real specific gravity
E8x-K/B/N/E/Rxxx-Exx =	align adjustment rod with real specific gravity multiplied by 2 (density = 0.3 - align with 0.6)
E8x-L/C/P/F/Txxx-Exx =	align adjustment rod with real specific gravity divided by 2 (density = 1.30 - align with 0.65)

CALIBRATION – INTERFACE: all interface transmitters are pre-calibrated from factory

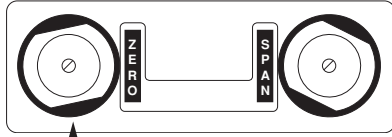
INTERFACE ANY MEDIA - USING THE REAL MEDIA FOR CALIBRATION

IMPORTANT

DISPLACER **MUST** REMAIN ALWAYS IMMERGED IN THE UPPER LIQUID

Calibrate 4 mA/0 % level

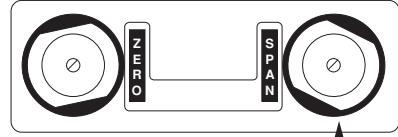
Bring interface at lowest level



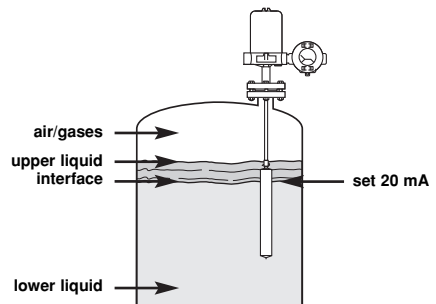
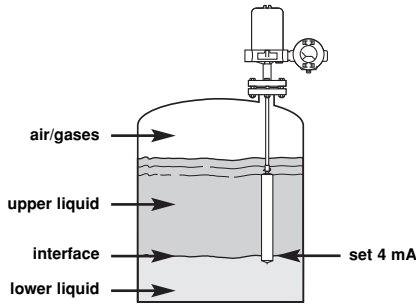
Rotate «ZERO» control until the local meter (use a multimeter for blind transmitters) reads 4 mA or 0 %.

Calibrate 20 mA/100 % level:

Bring interface at highest level



Rotate «SPAN» control until the local meter (use a multimeter for blind transmitters) reads 20 mA or 100 %.

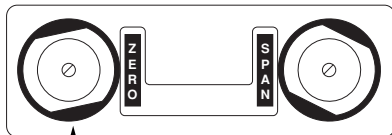


INTERFACE WATER (S.G. 1)/OTHER LIQUID - USING WATER FOR CALIBRATION

NOTE: Below procedure is based upon an interface water/liquid (S.G. 0.8). When the density of the upper liquid is different e.g. 0.78, immerge the displacer for 78 % in the example)

Calibrate 4 mA/0 % level

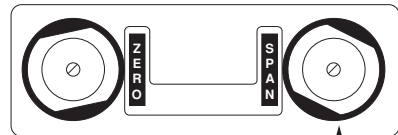
Immerge displacer for 80 % in water



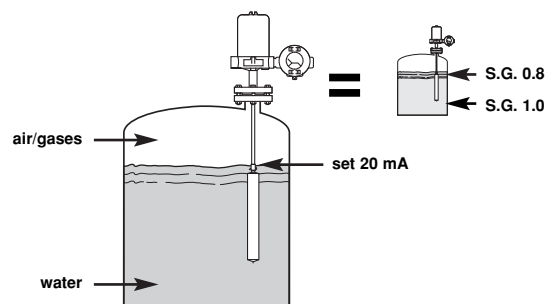
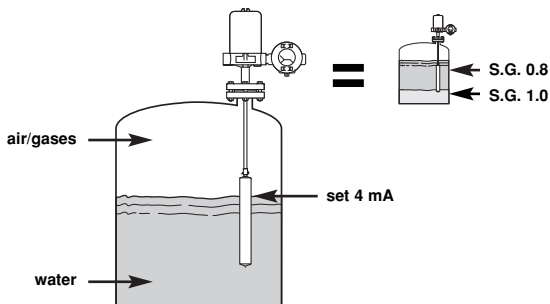
Rotate «ZERO» control until the local meter (use a multimeter for blind transmitters) reads 4 mA or 0 %.

Calibrate 20 mA/100 % level:

Immerge displacer for 100 % in water



Rotate «SPAN» control until the local meter (use a multimeter for blind transmitters) reads 20 mA or 100 %.



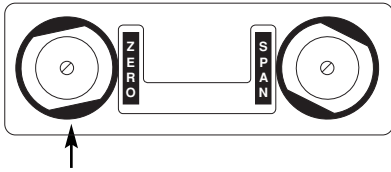
CALIBRATION – INTERFACE: all interface transmitters are pre-calibrated from factory

INTERFACE ANY MEDIA - USING WATER FOR CALIBRATION

NOTE: Below procedure is based upon an interface liquid (S.G. 1.2)/liquid (S.G. 0.8). When the density of the upper liquid is different e.g. 0.78, immerse the displacer for 78 % in the water – see example)

Calibrate 4 mA/0 % level

Immerge displacer for 80 % in water



Rotate «ZERO» control until the local meter (use a multimeter for blind transmitters) reads 4 mA or 0 %.

Calibrate 20 mA/100 % level:

Immerge displacer for 100 % in water.

Calculate the equivalent mA value per below formular.

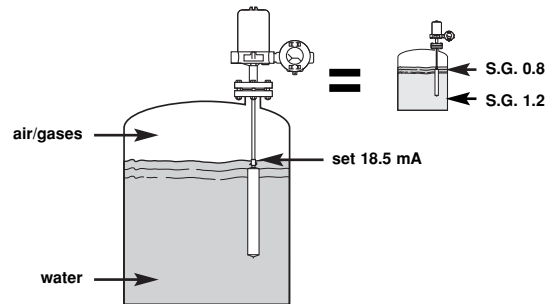
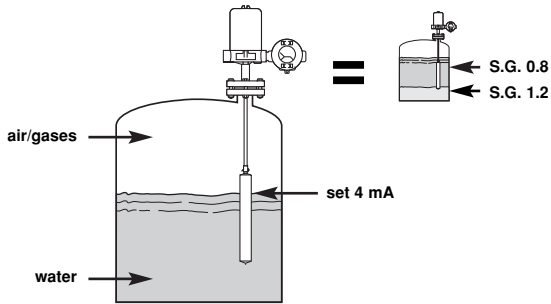
In our example the loop should correspond with 12 mA.

$$\text{Calculation: } \frac{100 \times (1 - \text{Upper S.G.})}{\text{Lower S.G.} - \text{Upper S.G.}} = \% \text{ Span}$$

$$\frac{100 \times (1 - 0,8)}{1,2 - 0,8} = 50 \%$$

$$[(20 \text{ mA} - 4 \text{ mA}) \times 50 \%] + 4 \text{ mA} = 12 \text{ mA}$$

Rotate the «SPAN» control until the local meter (use a multimeter in case of a blind transmitter) reads 12 mA.



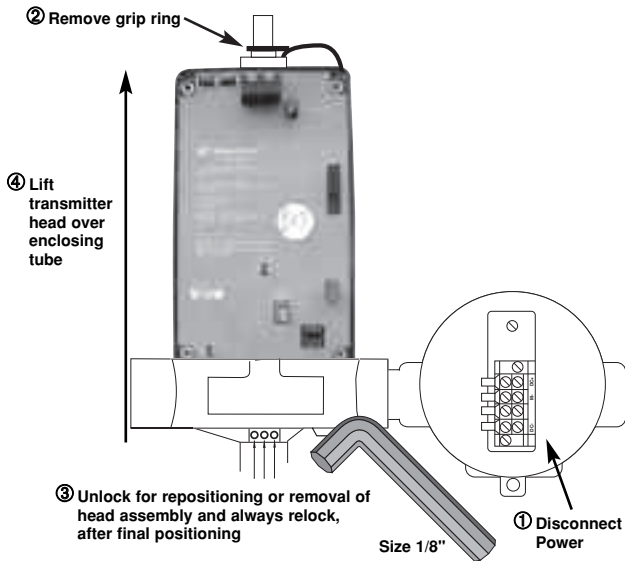
TROUBLESHOOTING

Symptom	Problem	Solution
No loop current	Power supply not turned on.	Turn on power.
	Insufficient source voltage.	A minimum of 12 V DC is required at terminal TB1 (see wiring on page 3).
	Wires broken/improperly connect.	Check wiring.
	Defective PC board.	Replace PC board (see procedure on page 10).
Span point cannot be increased to 20.00 mA at high level.	Incorrect supply. Span incorrectly set.	Check power supply. Recalibrate unit.
	Displacer hanging-up.	Verify proper and level installation.
	Excessive loop resistance.	Increase power supply voltage, or decrease loop resistance (max 480 Ω @ 24 V DC).
Loop current oscillates or hunts.	Waves or disturbances in medium.	Re-locate unit or eliminate turbulence.
Loop current randomly unstable.	Waves or disturbances in medium.	Re-locate unit or eliminate turbulence.
	Power supply unstable.	Repair or replace power supply.
	Electrical interference (RFI).	Consult factory for assistance.
Loop current more than 20 mA	Incorrect calibration.	Re-calibrate calibration.
	Supply voltage is out of limits at transmitter.	Adjust power supply: min 12 V DC – max 36 V DC
	Excessive temperature at transmitter electronics.	Use remote electronics.
	Displacer hanging up.	Verify proper and level installation.
Loop current less than 4 mA	Incorrect calibration.	Re-calibrate calibration.
	Supply voltage is out of limits at transmitter.	Adjust power supply or reduce loop resistance.
	Excessive temperature at transmitter electronics.	Use remote electronics.
	Displacer hanging up.	Verify proper and level installation.
Non-linear output.	Incorrect calibration.	Recalibrate unit.
	Displacer hanging-up.	Verify proper and level installation.

MAINTENANCE

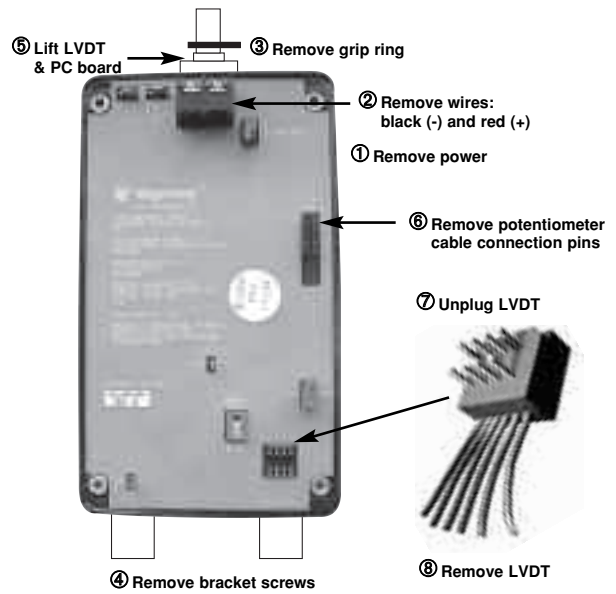
REMOVAL OF TRANSMITTER HEAD

CAUTION: BENDING THE ENCLOSING TUBE WILL PERMANENTLY DAMAGE THE UNIT.

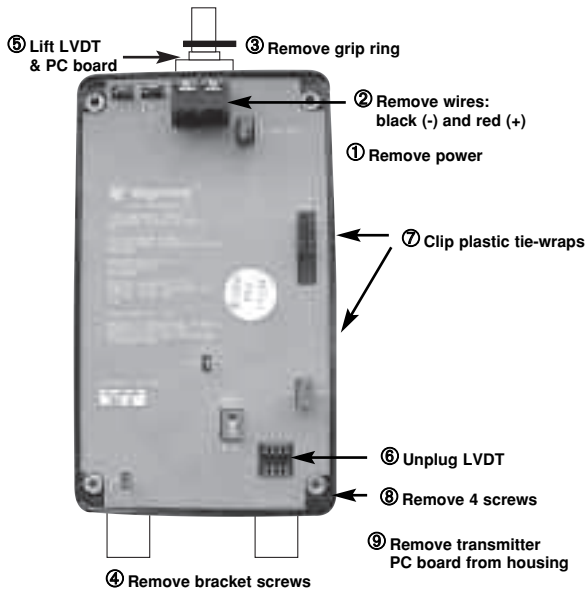


NOTE: Re-install transmitter head on process level sensor. Be sure housing base is fully seated downward. White plastic washer is in place and LVDT assembly is fully seated downward. Replace grip ring.

REPLACING LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT)



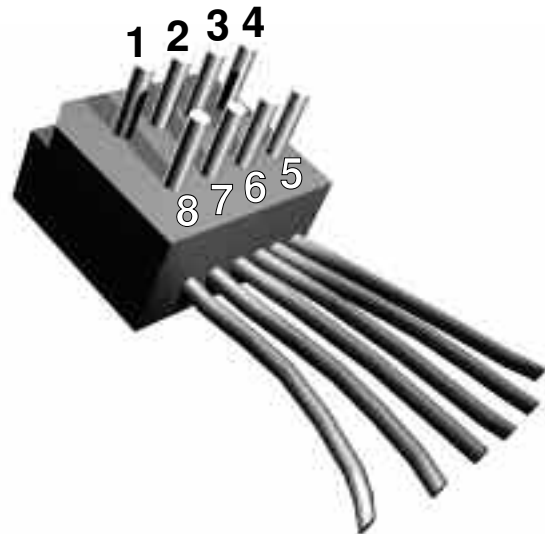
REPLACING TRANSMITTER BOARD



NOTE: Re-install by reversing the above procedure.

CHEKING THE LVDT WINDING RESISTANCE

- Using a multimeter, check primary winding. Pins 2 and 6 should have approximately 78 to 117 ohms.
- Secondary winding (pins 1 and 5 or 4 and 8) should have approximately 72 to 109 ohms. If not in this range, replace the LVDT.



NOTE: Replace LVDT if the secondary winding is out of range

SPECIFICATIONS

PHYSICAL/ELECTRONICAL SPECIFICATIONS

Description	Specifications	
Power (at terminals)	ATEX explosion proof: 12 to 36 V DC	
Signal output	4 – 20 mA (direct / reverse action)	
Span	356 mm up to 3048 mm (14" up to 120") (other ranges at request)	
Loop resistance	480 Ohm at 24 V DC	
User interface	External explosion proof potentiometers for zero and span	
Display	None (blind), or with local analog meter	
Housing material	IP 66, polyester coated cast iron - 1 x 1" NPT cable entry IP 66, stainless steel - 1 x M20 x 1,5 cable entry	
Wetted materials	Spring	Inconel (other materials at request)
	Displacer	316/316L SST (1.4401/1.4404) or 304 SST (1.4301)
Cage materials	Carbon steel or 316/316L SST (1.4401/1.4404) (other materials at request)	
Approvals	ATEX II 1/2G EEx d II C T6, explosion proof FM/CSA/SAA, explosion proof GOST-K/GGTN-K – RosTECH/FSTS: Russian Authorisation Standards LRS, Lloyds Register of Shipment (marine applications) Other approvals are available, consult factory	
SIL (Safety Integrity Level)	Functional safety to SIL 1 / SIL 2 in accordance to IEC 61508 - SFF 66,5 %. – full FMEDA reports and declaration sheets available at request.	
Net and gross weight	14 kg (31 lbs) (cast iron housing with meter) - integral unit 6,3 kg (13,80 lbs) (cast aluminium housing with meter) - integral unit 15 kg (33 lbs) (stainless steel housing with meter) - integral unit	

PERFORMANCE

Description	Specifications
Linearity	± 0,25 % of full span for level measurement
Accuracy	0,5 %
Repeatability	± 0,20 % of full span
Response time	< 1 s (electronics)
Ambient temperature	-40 °C to +70 °C (-40 °F to +160 °F)
Process temperature	-30 °C to +315 °C (+260 °C for steam) @ +40 °C ambient temp (-20 °F to +500 °F (+600 °F for steam) @ +100 °F ambient temp) Max. temp. needs to be derated in case of higher ambient temperature. For lower process temperature – use Stainless steel constructions.
Process pressure	Max 355 bar (5150 psi) Flanged models are downrated to the design pressure of the selected flange.
Max. ambient temp. effect	< 0,056 % / °C (< 0,031 % / °F)
Density range	Min 0,23 S.G. – Max 2,20 S.G.
Humidity	0-99 %, non condensing
Electromagnetic compatibility	Meets CE requirements (EN 61000-6-4, EN 61000-6-2)

REPLACEMENT PARTS

Specify replacement parts from table below by reference to transmitter identification letters. Example: E85-KQ3A-**EZA**

	Item 1 Transmitter PC board	Item 2 LVDT assembly	Item 3 Meter assembly	Item 4 Housing 'O'-rings	Item 5 Junction box PC board
EZA	030-2163-002	030-2135-001	N/A	089-6562-001	030-2185-001
EZE		030-2135-002	N/A		
EZG		030-2135-001	037-3145-002		
EZF		030-2135-002	037-3145-002		
RZW		030-2154-002	N/A	089-6562-001 quantity = 2	
RZX		030-2154-002	037-3145-002		

Item	Description
6	Low pressure enclosing tube – max 600 lbs / PN 100
	032-6401-007 – Exi 032-6401-010 – Exd
	High pressure enclosing tube – 900 lbs / 1500 lbs / 2500 lbs
	032-6401-010 – Exi/Exd

Item	Description	
7	Housing cover	consult factory
8	Junction box cover	consult factory
9	E-tube gasket	012-1204-001
11	Stem assembly	consult factory

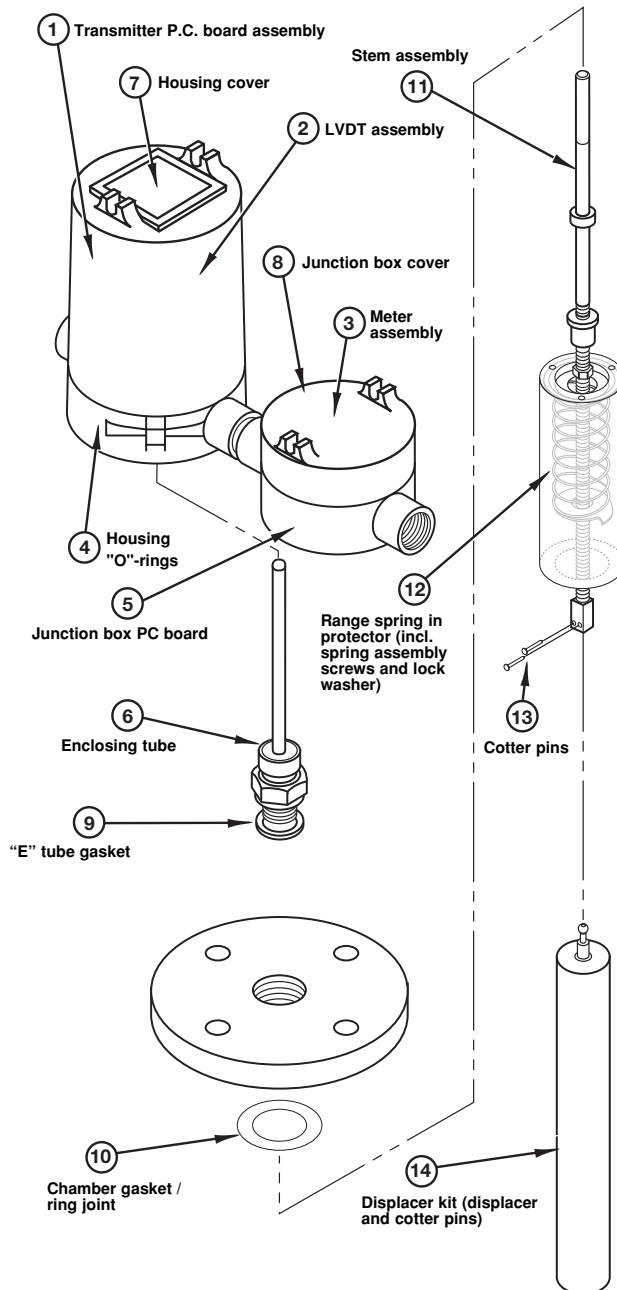
		Flange type	Chamber gasket	Chamber ring joint	
				Body material	
				Carbon steel	316 / 316L SST
10	Chamber gasket / ring joint	3" 150 lbs RF	012-1301-017	–	–
		3" 300 lbs RF	012-1301-018	–	–
		3" 600 lbs RF	012-1204-021	–	–
		3" 900 lbs RJ	->	012-1904-002	012-1906-002
		3" 1500 lbs RJ	->	012-1904-003	012-1906-003
		4" 2500 lbs RJ	->	012-1904-011	012-1906-011

Item	Description					
12	Low pressure range spring – max 600 lbs / PN 100					
	0.23-0.54	Up to +230 °C (+450 °F)	089-5340-002	From +230 °C (+450 °F)	089-5340-003	
	0.55-1.09		089-5340-005	to +315 °C	089-5340-006	
	1.10-2.20		089-5340-008	(+600 °F)	089-5340-009	
	13	High pressure range spring – 900 lbs / 1500 lbs / 2500 lbs				
		0.23-0.54	Up to +230 °C (+450 °F)	089-5340-010	From +230 °C (+450 °F) to +315 °C (+600 °F)	089-5340-010
		0.55-1.09				
1.10-2.20						
Cotter pins	010-5203-001 (standard stainless steel cotter pins) – (qty: 2)					

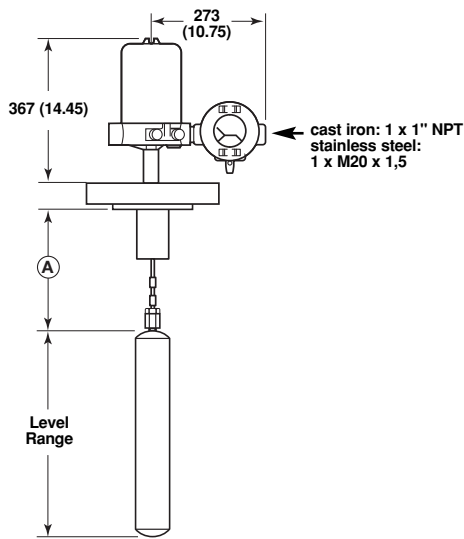
Item	Description				
14	Displacer kits. Consult factory for other S.G. ranges				
	Length		Low pressure 150-300-600 lbs		High pressure 900 - 1500 - 2500 lbs
	mm	inches	0.23-0.54 & 0.55-1.09	1.10-2.2	0.55-1.09
	356	14	089-6125-001	089-6126-001	089-6125-010
	813	32	089-6125-002	089-6126-002	089-6125-011
	1219	48	089-6125-003	089-6126-003	089-6125-012
	1524	60	089-6125-004	089-6126-004	089-6125-013
	1829	72	089-6125-005	089-6126-005	Consult factory
	2134	84	089-6125-006	089-6126-006	Consult factory
	2438	96	089-6125-007	089-6126-007	Consult factory
	2743	108	089-6125-008	089-6126-008	Consult factory
	3048	120	089-6125-009	089-6126-009	Consult factory

NOTE: WHEN ORDERING PARTS SPECIFY COMPLETE PART AND SERIAL NUMBERS OF THE INSTRUMENT.

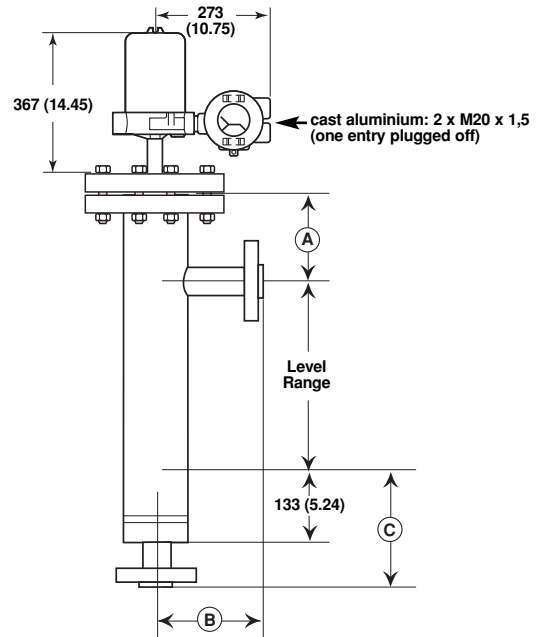
REPLACEMENT PARTS



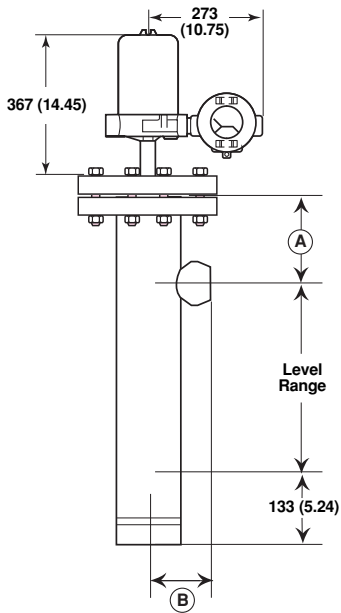
**Top Mounted
E81/E82 - J/K/L**



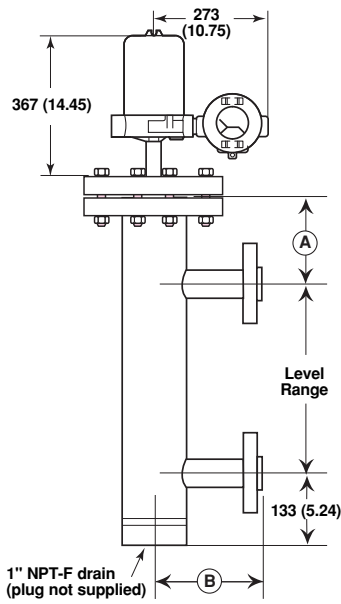
**Side/bottom cage
E83/E84 - J/K/L**



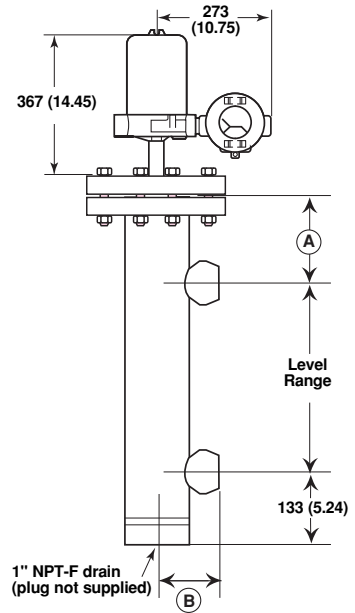
**Side/bottom cage
E83/E84 - J/K/L**



**Side/side cage
E85/E86 - J/K/L**

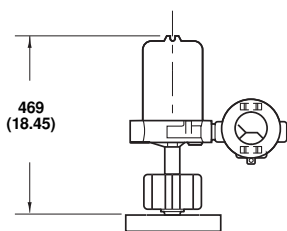


**Side/side cage
E85/E86 - J/K/L**

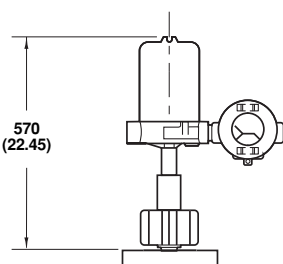


TEMPERATURE EXTENSIONS

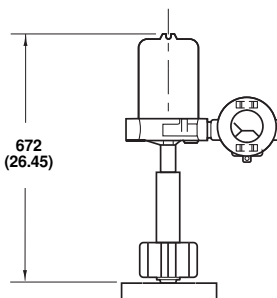
Models E8x-A/B/C



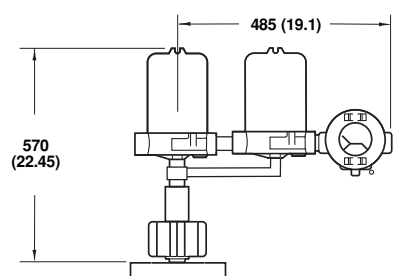
Models E8x-M/N/P



Models E8x-D/E/F



Models E8x-Q/R/T



DIMENSIONS IN mm (inches)

Dimension A for all models

Cage rating	SG range	4 th digit	Dimension A
150 / 300 / 600 lbs PN 16 .. PN 100	0.23 - 0.54	J/A/M/D/Q	236 (9.29)
	0.55 - 1.09	K/B/N/E/R	186 (7.32)
	1.10 - 2.20	L/C/P/F/T	186 (7.32)
900 / 1500 lbs	0.55 - 1.09	K/B/N/E/R	236 (9.29)
2500 lbs			315 (12.40)

Dimensions B and C for external cage models (E83/E84/E85/E86)

Flanged process connections				
Flange size	Flange rating	Connection type	Dimensions	
			B	C
1 1/2"	150 / 300 / 600 lbs	Slip on - ANSI RF	180 (7.09)	268 (10.55)
	600 lbs	Weldneck - ANSI RJ	180 (7.09)	268 (10.55)
	900 / 1500 lbs	Weldneck - ANSI RJ	193 (7.60)	283 (11.14)
	2500 lbs	Weldneck - ANSI RJ	235 (9.25)	313 (12.32)
2"	150 / 300 / 600 lbs	Slip on - ANSI RF	185 (7.28)	273 (10.75)
	600 lbs	Weldneck - ANSI RJ	185 (7.28)	273 (10.75)
	900 / 1500 lbs	Weldneck - ANSI RJ	214 (8.43)	303 (11.93)
	2500 lbs	Weldneck - ANSI RJ	250 (9.84)	328 (12.91)
DN 40	PN 16 .. PN 100	EN/DIN	180 (7.09)	268 (10.55)
DN 50	PN 16 .. PN 100	EN/DIN	185 (7.28)	273 (10.75)

Threaded / Socket weld process connections				
Size	Cage rating	Connection type	Dimensions	
			B	C
1 1/2"	150 / 300 / 600 lbs	NPT/SW	81 (3.19)	-
	900 / 1500 lbs	NPT	81 (3.19)	
	900 lbs	SW	81 (3.19)	
	1500 lbs	SW	89 (3.50)	
	2500 lbs	NPT/SW	102 (4.02)	
2"	150 / 300 / 600 lbs	NPT/SW	84 (3.31)	
	900 / 1500 lbs	NPT	84 (3.31)	
	900 lbs	SW	84 (3.31)	
	1500 lbs	SW	99 (3.90)	
	2500 lbs	NPT/SW	112 (4.41)	

MODEL IDENTIFICATION – UP TO 600 lbs

BASIC MODEL NUMBER

E 8 1	top mounted EZ Module level	- Carbon steel construction
E 8 2	top mounted EZ Module level	- Stainless steel construction
E 8 3	EZ Module level with side/bottom cage	- Carbon steel construction
E 8 4	EZ Module level with side/bottom cage	- Stainless steel construction
E 8 5	EZ Module level with side/side cage	- Carbon steel construction
E 8 6	EZ Module level with side/side cage	- Stainless steel construction

SPECIFIC GRAVITY AND PROCESS TEMPERATURE (consult factory for interface applications)

integral +150 °C	integral +200 °C	integral +230 °C	integral +290 °C ^①	remote +315 °C ^②	mounting max. temp.
J	A	M	D	Q	0.23 - 0.54 specific gravity
K	B	N	E	R	0.55 - 1.09 specific gravity
L	C	P	F	T	1.10 - 2.20 specific gravity

PROCESS CONNECTION

a. For top mounted connection type

E81/E82 - ANSI HEAD Flange rating					E81/E82 - DIN / EN 1092-1 HEAD Flange rating				
150 lbs RF	300 lbs RF	600 lbs		Size	Type B1 PN 16	Type B1 PN 25/40	Type B2 PN 63	Type B2 PN 100	Size
		RF	RJ						
G3	G4	G5	G6	3"	EA	EB	ED	EE	DN 80
H3	H4	H5	H6	4"	FA	FB	FD	FE	DN 100
K3	K4	K5	K6	6"	GA	GB	GD	GE	DN 150

b. For external cage models

E83 ... E86 - ANSI Flange/Cage rating					E83 ... E86 - DIN / EN 1092-1 Flange rating				
150 lbs RF	300 lbs RF	600 lbs		Size	Type B1 PN 16	Type B1 PN 25/40	Type B2 PN 63	Type B2 PN 100	Size
		RF	RJ						
P3	P4	P5	P6	1 1/2" flanged	CA	CB	CD	CE	DN 40 flanged
Q3	Q4	Q5	Q6	2" flanged					
R3	R4	R5		1 1/2" NPT-F					
S3	S4	S5		2" NPT-F	DA	DB	DD	DE	DN 50 flanged
T3	T4	T5		1 1/2" S.W.					
U3	U4	U5		2" S.W.					

LEVEL RANGE

356	813	1219	1524	1829	2134	2438	2743	3048	mm
14	32	48	60	72	84	96	108	120	inches
A	B	C	D	E	F	G	H	I	code

TRANSMITTER – ELECTRONICS

Standard codes apply for cast iron housing - use "X" description for stainless steel or cast aluminium housing

INTEGRAL MOUNT ELECTRONICS				REMOTE ELECTRONICS		24 V DC amplifier head	
Max +290 °C ^③		Max +230 °C ^④ (Steam only)		Max +315 °C ^② (Q, R or T)		Process Temperature (codes as per digit 4)	
Blind	with analog meter	Blind	with analog meter	Blind	with analog meter	Local meter	Output & Safety approvals
EZA	EZG	EZE	EZF	RZW	RZX	4 - 20 mA, explosion proof	



complete code for EZ Module level transmitter – up to 600 lbs

① Not for applications with steam.
 ② Max +260 °C for steam applications
 ③ Max +150 °C for steam applications
 ④ Only for applications with steam

MODEL IDENTIFICATION – FROM 900 lbs TO 2500 lbs

BASIC MODEL NUMBER

E 8 1	top mounted EZ Modulelevel	- Carbon steel construction
E 8 2	top mounted EZ Modulelevel	- Stainless steel construction
E 8 3	EZ Modulelevel with side/bottom cage	- Carbon steel construction
E 8 4	EZ Modulelevel with side/bottom cage	- Stainless steel construction
E 8 5	EZ Modulelevel with side/side cage	- Carbon steel construction
E 8 6	EZ Modulelevel with side/side cage	- Stainless steel construction

SPECIFIC GRAVITY AND PROCESS TEMPERATURE (consult factory for interface applications)

integral +150 °C	integral +200 °C	integral +230 °C	integral +290 °C ^①	remote +315 °C ^②	<i>mounting max. temp.</i>
K	B	N	E	R	0.55 - 1.09 specific gravity

PROCESS CONNECTION (for DIN flanges consult factory)

a. For top mounted connection type (E81, E82) - head flange rating

900 lbs RJ	1500 lbs RJ	2500 lbs RJ	Type / size
G7	–	–	3" size
H7	H8	H9	4" size
K7	K8	K9	6" size

b. For external cage models (E83, ... E86) - ANSI rating

900 lbs RJ	1500 lbs RJ	2500 lbs RJ	Flange rating / connection
P7	P8	P9	1 1/2" ANSI Flanges
Q7	Q8	Q9	2" ANSI Flanges
900 lbs	1500 lbs	2500 lbs	Cage rating / connection
R7	R8	R9	1 1/2" NPT-F
S7	S8	S9	2" NPT-F
T7	T8	T9	1 1/2" Socket Weld
U7	U8	U9	2" Socket Weld

LEVEL RANGE (consult factory for longer level range)

356 14	813 32	1219 48	1524 60	<i>mm inches</i>
A	B	C	D	<i>code</i>

TRANSMITTER – ELECTRONICS

Standard codes apply for cast iron housing - use "X" description for stainless steel or cast aluminium housing

INTEGRAL MOUNT ELECTRONICS				REMOTE ELECTRONICS		24 V DC amplifier head
Max +290 °C ^③		Max +230 °C ^④ (Steam only)		Max +315 °C ^② (R only)		Process Temperature (codes as per digit 4)
Blind	with analog meter	Blind	with analog meter	Blind	with analog meter	Local meter / Output & Safety approvals
EZA	EZG	EZE	EZF	RZW	RZX	4 - 20 mA, explosion proof

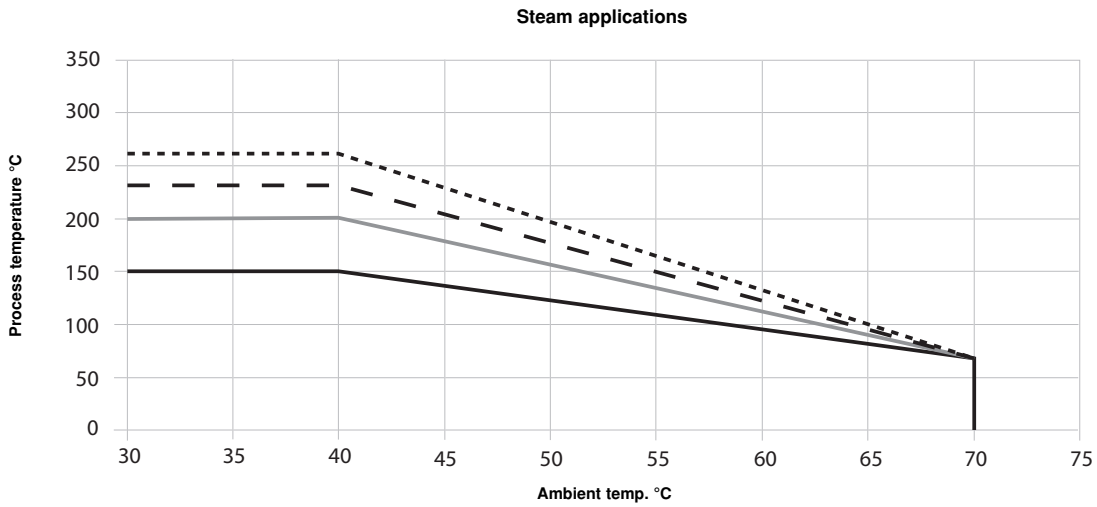
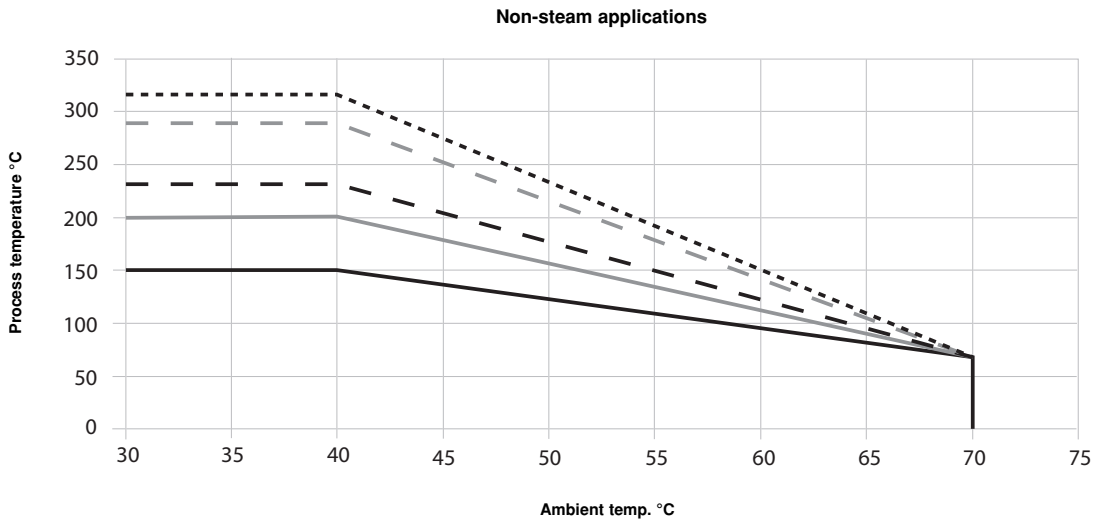
E 8

complete code for EZ Modulelevel transmitter – from 900 lbs to 2500 lbs

① Not for applications with steam.
 ② Max +260 °C for steam applications
 ③ Max +150 °C for steam applications
 ④ Only for applications with steam

OPERATING TEMPERATURES

The following charts lists combinations of process and ambient temperatures that should not be exceeded, with standard instruments



- Digit 4 = J/K/L
- Digit 4 = A/B/C
- - - Digit 4 = M/N/P
- - - Digit 4 = D/E/F
- · · Digit 4 = Q/R/T

IMPORTANT

SERVICE POLICY

Owners of Magnetrol products may request the return of a control; or, any part of a control for complete rebuilding or replacement. They will be rebuilt or replaced promptly. Magnetrol International will repair or replace the control, at no cost to the purchaser, (or owner) **other than transportation cost** if:

- a. Returned within the warranty period; and,
- b. The factory inspection finds the cause of the malfunction to be defective material or workmanship.

If the trouble is the result of conditions beyond our control; or, is **NOT** covered by the warranty, there will be charges for labour and the parts required to rebuild or replace the equipment.

In some cases, it may be expedient to ship replacement parts; or, in extreme cases a complete new control, to replace the original equipment before it is returned. If this is desired, notify the factory of both the model and serial numbers of the control to be replaced. In such cases, credit for the materials returned, will be determined on the basis of the applicability of our warranty.

No claims for misapplication, labour, direct or consequential damage will be allowed.

RETURNED MATERIAL PROCEDURE

So that we may efficiently process any materials that are returned, it is essential that a "Return Material Authorisation" (RMA) form will be obtained from the factory. It is mandatory that this form will be attached to each material returned. This form is available through Magnetrol's local representative or by contacting the factory. Please supply the following information:

1. Purchaser Name
2. Description of Material
3. Serial Number
4. Desired Action
5. Reason for Return
6. Process details

All shipments returned to the factory must be by prepaid transportation. Magnetrol **will not accept** collect shipments.

All replacements will be shipped FOB factory.

UNDER RESERVE OF MODIFICATIONS

BULLETIN N°: BE 48-615.8
EFFECTIVE: APRIL 2007
SUPERSEDES: March 2000



www.magnetrol.com

BENELUX	Heikensstraat 6, 9240 Zele, België Tel. +32 (0)52.45.11.11 • Fax. +32 (0)52.45.09.93 • E-Mail: info@magnetrol.be
DEUTSCHLAND	Alte Ziegelei 2-4, D-51491 Overath Tel. 02204 / 9536-0 • Fax. 02204 / 9536-53 • E-Mail: Vertrieb@magnetrol.de
FRANCE	40 - 42, rue Gabriel Péri, 95130 Le Plessis Bouchard Tél. 01.34.44.26.10 • Fax. 01.34.44.26.06 • E-Mail: magnetrolfrance@magnetrol.fr
ITALIA	Via Arese 12, I-20159 Milano Tel. (02) 607.22.98 (R.A.) • Fax. (02) 668.66.52 • E-Mail: mit.gen@magnetrol.it
UNITED KINGDOM	Unit 1 Regent Business Centre, Jubilee Road Burgess Hill West Sussex RH 15 9TL Tel. (01444) 871313 • Fax (01444) 871317 • E-Mail: sales@magnetrol.co.uk
INDIA	E-22, Anand Niketan, New Delhi - 110 021 Tel. 91 (11) 41661840 • Fax 91 (11) 41661843 • E-Mail: info@magnetrolindia.com