SMART LEVEL TRANSMETERS 532

MAGNET SENSITIVITY TYPE / FIELD INDICATOR FOR OPTIONAL

DOERS

FEATURES

- TWO-WIRE TRANSMITTER WITH HART PROTOCOL
- HIGH RELIABILITY
- ANTICORROSIVE MATERIALS
- CAPABLE OF HIGH OPERATING PRESSURE
- COMPACT STRUCTURE TO LAST OPERATION
- SENSING ELEMENTS MOULDING ENCLOSED TO EASY MAINTENANCE
- HIGH SAFETY WHICH THE ELECTRICAL / LIQUID IS COMPLETELY INSULATED
- ANALOG POINTER / LED DISPLAY FOR OPTIONAL PROVIDED

CE Ex ATEX HART®

CONNECTION SIZING FOR 532A — TABLE 1

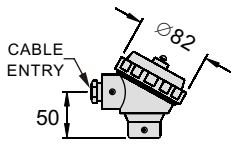
CODE	CONNECTION	FLOAT	AVAILABLE NOZZLE SIZE	STEM DIA.	SP. GR.	MAX. OPERATING TEMP. / PRESSURE	MATERIALS
0	2" (50A)	Ø50x^{H}48	≧52mm	Ø14mm	≧0.53	≦100°C / 3MPa	304SS / 316SS (1.4301 / 1.4571)
	2" (50A)	Ø47x^{H}50	≧52mm	Ø21mm	≧0.5	≦80°C / 0.5MPa	PVC / PP
1	3" (80A)	Ø60x^{H}115	≧62mm	Ø22mm	≧0.5	≦80°C / 0.5MPa	PVC / PP / PVDF
	3" (80A)	Ø74x^{H}105	≧78mm	Ø22mm	≧0.5	≦100°C / 3MPa	316SS (1.4571)
2	4" (100A)	Ø86x^{H}115	≧102mm	Ø22mm	≧0.5	≦80°C / 0.5MPa	PVC / PP / PVDF
3	SPECIFIED	According to the difference of float diameter and materials					

HOUSING SELECTION — TABLE 2

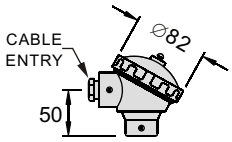
No indicator version

Water proof IP68

■ **CODE : 0** (ADC made)

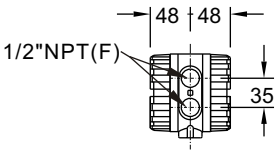


■ **CODE : 2** (PP made)



Water proof IP67

■ **CODE : 5A** (ADC made) IP67
■ **CODE : 5S** (316SS made) IP67

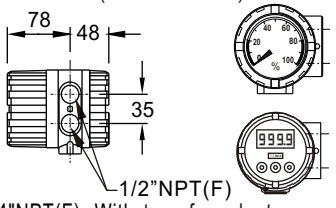


※ 3/4"NPT(F) : With transfer adapter

With indicator

Water proof IP67

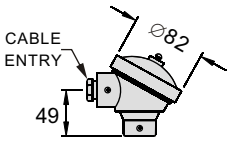
■ **CODE : 7A** (ADC made)
■ **CODE : 7S** (316SS made)



※ 3/4"NPT(F) : With transfer adapter

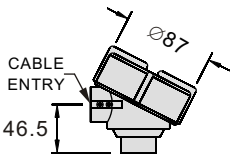
Water proof IP68

■ **CODE : 1** (316SS made)



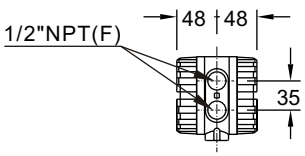
Exd ⅡC T6,IP68

■ **CODE : 3** (ADC made)
■ **CODE : 4** (316SS made)



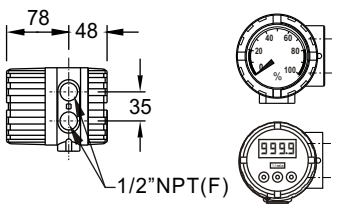
Explosion proof for Class Ⅰ,Div.Ⅰ,Gr.B/C/D ; ClassⅡ /Ⅲ,DivⅠ,Gr.E/F/G

■ **CODE : 6A** (ADC made)
■ **CODE : 6S** (316SS made)



※ 3/4"NPT(F) : With transfer adapter

■ **CODE : 8A** (ADC made)
■ **CODE : 8S** (316SS made)



※ 3/4"NPT(F) : With transfer adapter

SPECIFICATIONS FOR TRANSMETER / DETECTOR

HART COMMUNICATION

Protocol : HART communication protocol
HART address range : 0 - 15 (factory set to 0)
Transmission speed : 1200 bps
Digital current : Approx. 1 mAp-p when communicating
Character format : 1 Start Bit , 8 Data Bits ,
1 Odd Parity Bit , 1 Stop Bit
Distance : 1.5 km (0.9 miles)
HART communication mode : Master-Slave
Mode and Burst Mode
(factory set to Master - Slave)
HART network mode : Point - to - Point
Mode and Multi - drop Mode ;
automatically set to Multi - drop Mode
when the address is set to other than 0 .
User - configurable items : Input sensor type and
numbers / Number of sensor wires /
Input range (inverted range selectable) /
Burnout / Output limits (Upper / Lower) /
Damping time (factory set to 0) /
Linearization / Sensor calibration / Output
calibration / HART communication mode
Refer to the HART setup manual or the
PC configurator users manual for the detail

GENERAL SPECIFICATIONS

Output range : 4~20 mA DC , 2-wire system with HART protocol
Supply voltage : -8 - 35V DC (non-approved)
-8 - 28V DC (approved)
Resistance load : (Supply voltage (V) - 8 (V)) / 0.023 (A)
(Including leadwire resistance)
Burnout : 3.75-3.8 mA or 21.5 - 23 mA (factory set to 23 mA)
Update time : 440 msec. (660 msec. with dual input)
Respone time : ≦ 2 sec. (0-90%) with damping time set to 0
and when not communicating via HART
Supply voltage effect : ± 0.05 % of span / V
Accuracy : 0.05% F.S (Without flow error)
Insulation resistance : ≧ 100 MΩ with 500V DC
Dielectric strength : 1500V AC @1 minute (Input to output)
Safety integrity level according to IEC 61508 : Suitable for use
in a safety instrumented system up to SIL2
(together with sensor) if appropriate safety
instructions are observed.

OPTIONAL APPROVALS

CE conformity : ATEX Directive (94 / 9 / EC) /
Exia EN 60079-11 /
EMC Directive (2004 / 108 / EC) /
EMI EN 61000-6-4 /
EMS EN 61000-6-2
Safety approval :FM Intrinsically safe
Class I , Division 1 , Group A , B , C & D
Class I , Zone 0 , Aex ia ⅡC T4 , T5 & T6
Cenelec : Intrinsic safety (ATEX)
Ⓔx Ⅱ 1G , Exia ⅡC ; T4 , T5 & T6
(EN 60079-11 : 2007)

FIELD INDICATOR COPTIONAL

ANALOG POINTER INDICATOR

Dial : 70mm , 240° arch (Zero / Span)
Range : 0 ~ 100% (Standard)
Zero : Field adjustable
Accuracy : ±2%F.S. (St'd) or options

LED DIGITAL INDICATOR

LED : 8 mm (.3") 7-segment , red
Number of display digits : 4-Digits
Scaling range : -1999 to 9999
Offset range : -1999 to 9999
Decimal point position : 0.0 , 0.00 , 0.000 or none
Display accuracy : ± 0.063 % of read (≒ ± 0.9 digits)
Enginering unit : mA , % , mm , m
Sticker label attached in front panel
Scaling : Programming via the front buttons
Module housing : Flame - resistant resin (black)

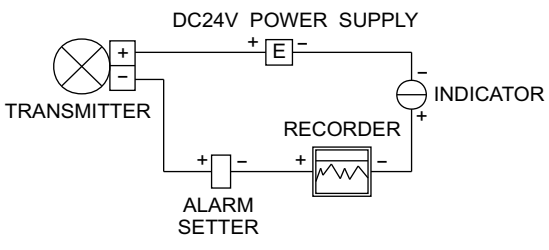
LEVEL DETECTOR

ELECTRICAL

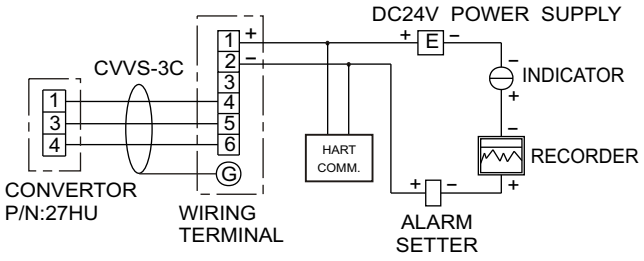
Sensor : Reed switch
Detecting output : 46Ω±1Ω/cm or specified
Measuring range : 600cm max.
Detecting resolution : ±5mm
Vibration : 50G max.
Breakdown voltage : 200V DC
Sensitivity interval : 20±10mm Between sensor & magnet
Moving speed : ≧0.1sec/cycle
Assembly : Plug-in style for series connection
Connecting pin : 3 pins in gilded
Moulding enclosed : Self-extinguishing PA+G
Operating temperature : -20 to +105°C

WIRING CONNECTIONS

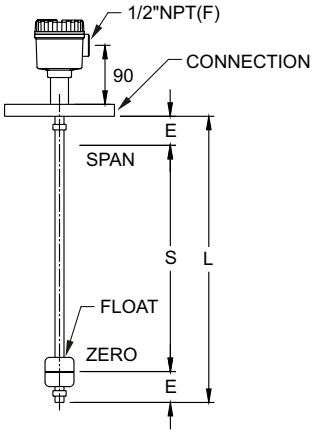
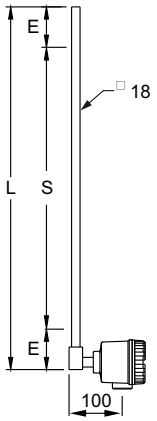
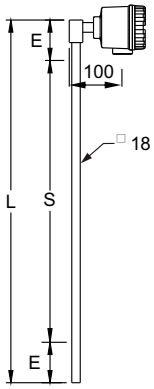
SYSTEM CONFIGURATION



VIA HART CALIBRATION

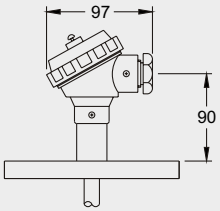
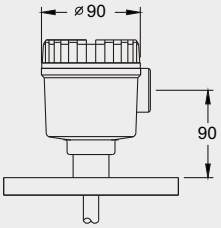
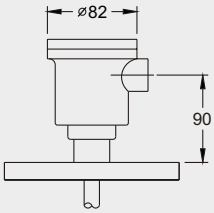
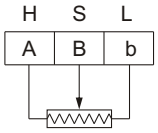
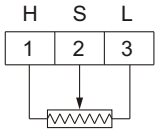
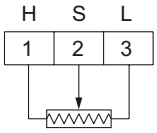


MODEL SELECTIONS

AVAILABLE USAGE		ROOF MOUNTING FOR PROCESS TANKS	ASSEMBLED IN MAGNETIC LEVEL GAUGES	
EXTERNAL VIEW & DIMENSIONS (IN m/m)				
ITEMS	CODE	532A	532B	532C
① CONNECTION (See table 1) OR LINKAGE (See Fig.1/2)	—0	2" ANSI 150lb Flange	Not any accessories	
	—1	3" ANSI 150lb Flange	With 2 clamps on the float chamber	
	—2	4" ANSI 150lb Flange	With screws mount the flag indicator	
	—3	To be specified	To be specified	
② SIGNAL FOR INPUT / OUTPUT	0	Linear input / 4~20mA DC , 2-wire system with HART protocol		
	1	Nonlinear input / 4~20mA DC , 2-wire system with HART protocol		
	2	To be specified		
③ INDICATOR (OPTIONAL)	0	Not required		
	1	240° dial , 0~100% , 1% divided		
	2	LED Display (-1999 to 9999) , 3 Decimal point (max.)		
	3	To be specified		
④ ELECTRIC HOUSING	0～8	See table 2 (Page 1)		
	X	To be specified		
⑤ CABLE ENTRY	—A	1/2" NPT (St'd)		
	—B	3/4" NPT		
	—C	To be specified		
⑥ MATERIAL OF TUBE / FLOAT	CODE	CONN. / STEM / FLOAT	STEM	
	A	304SS / 304SS / 316SS	Square pipe (304SS x φ18)	
	B	316SS / 316SS / 316SS	Round pipe (306SS x φ17)	
	C	PVC / PVC with SS inner pipe / PVC φ47x 50H	Square pipe with PVC sleeve	
	D	PP / PP with SS inner pipe / PP φ47x 50H	Round pipe with PVC sleeve	
	E	PVDF / PVDF with SS inner pipe / PVDF φ 63x 70H	Square pipe with PE sleeve	
	F	To be specified		
⑦ OPTIONAL FLOAT CHAMBER OR HEAT INSULATION	A	Not required	Not required (Less than 120°C)	
	B	With float chamber for waves-proof	With insulation blankets (for≦150°C)	
	C	With type-C external cage (for≦250°C)	With insulation blankets (for≦250°C)	
	D	With type-D external cage (for≦350°C)	With insulation blankets (for≦350°C)	
	E	To be specified	To be specified	
⑧ S—LENGTH (FOR MEASURING)	—010 ≀ —580	10 cm ≀ 580 cm	—010 ≀ —600	10 cm ≀ 600 cm
⑨ E—LENGTH (DEAD BAND)	A	Standard length 50mm (Standard)		
	B	To be specified		
⑩ EXTRA TREATMENT	/ A	Not required		
	/ B	Special finished		
	/ C	To be specified		

■ ELECTRIC HOUSING

Table 1

ITEMS \ CODE		1	2	3
EXTERNAL VIEW & DIMENSIONS (mm)				
ENCLOSURE		IP67	EExd ⅡB T4 IP68	EExd ⅡB T4 IP68
CABLE ENTRY	STANDARD	1/2"NPT(F)	1/2"NPT(F)	1/2"NPT(F)
	SPECIFIED	With transfer adapter	3/4"NPT(F) or with transfer adapter	With transfer adapter
MATERIAL	STANDARD	Aluminium alloy ADC-12	Low copper Aluminium alloy	304SS(1.4301)
	SPECIFIED	Bakelite / PC	304SS(1.4301)	316SS(1.4571)
STANDARD FINISH		Polyester epoxy painted	Polyester epox painted	———
WIRING CONNECTION				

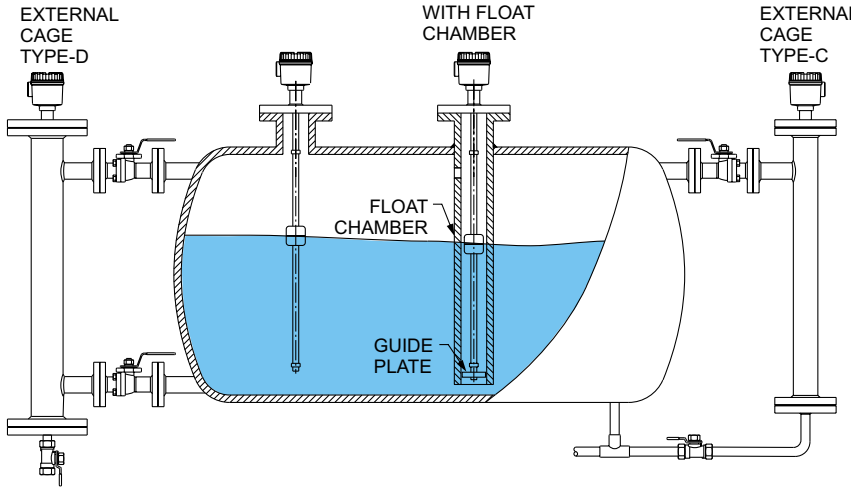
■ CONNECTION SIZING FOR 532A

Table 2

CODE	CONNECTION	FLOAT	AVAILABLE NOZZLE SIZE	STEM DIA.	SP. GR.	MAX. OPERATING TEMP. / PRESSURE	MATERIALS
0	2" (50A)	⌀50x^{H}48	≧52mm	⌀14mm	≧0.53	≦100°C / 3MPa	304SS / 316SS (1.4301 / 1.4571)
	2" (50A)	⌀48x^{H}50	≧52mm	⌀21mm	≧0.5	≦80°C / 0.5MPa	PVC / PP
1	3" (80A)	⌀60x^{H}115	≧62mm	⌀22mm	≧0.5	≦80°C / 0.5MPa	PVC / PP / PVDF
	3" (80A)	⌀74x^{H}105	≧78mm	⌀22mm	≧0.5	≦100°C / 3MPa	316SS(1.4571)
2	4" (100A)	⌀86x^{H}115	≧102mm	⌀22mm	≧0.5	≦80°C / 0.5MPa	PVC / PP / PVDF
3	SPECIFIED	The difference according to float diameter and material					

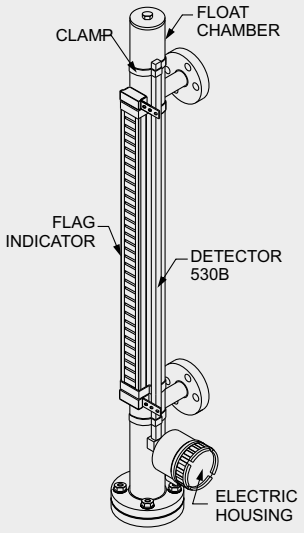
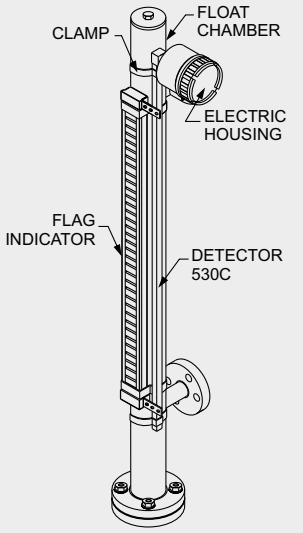
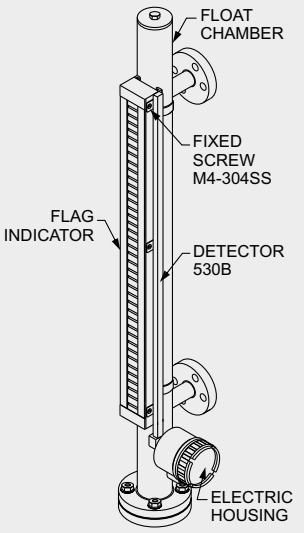
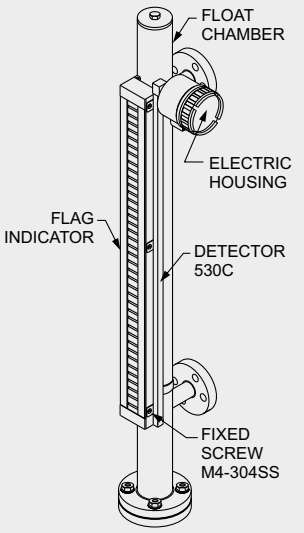
SPECIFICATIONS

■ INSTALLATION EXAMPLE FOR 532A



1. When moving the stem, avoid deforming or violently shaking.
2. Do not install the detector on the fluid inlet and outlet.
3. Avoid installing the level transmitter near either motor or solenoid valve.
4. When there are some intense flows or waves in the vessel, either the float chamber must be installed or remove the level transmitter and install it in the float chamber external cage.
5. Cable entry must be a lot higher than the maximum height of conduit. To avoid water flowing backwards.
6. The perpendicular angle of the stem should not be greater than ±5°.
7. The detail specifications of float chamber / external cage provided if necessary. Please offer your requirements or contact our department of sales.

■ ASSEMBLED IN GAUGE CHAMBER FOR 532B / 532C

532B-1	532C-1	532B-2	532C-2
			
The assemble method will be to prepare two clamps, and clamped the detector to the chamber of magnetic level gauge.		The assemble method to be combine the detector with flag indicator used by fixed screws.	

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