EIP
ENVIRO CONTROLS
An ISO 9001:2008 Certified Company

Level Measurement Solutions

for over 2 Decades

GUIDED WAVE RADAR

EIP COMPACT GUIDED WAVE – GW SERIES

GUIDED WAVE RADAR LEVEL INSTRUMENTS

DESCRIPTION

High-frequency microwave pulses transmitted by the guided wave radar propagates along the detector component (wire cable or steel bar), and are reflected on the surface of the medium. After reaching the dielectrics to be measured, part of the pulse energy is reflected. The time interval between the emission of the pulses and their arrival is proportional to the distance between the surface of the medium and the reference plan of the instrument.

EIP COMPACT GUIDED WAVE GW series is supplied with the advanced microprocessor EchoDiscovery: it can be used in very different working conditions.

The instruments have a low consumption, it can be installed on metallic or non metallic tanks. Their use is not harmful to humans or envinronment.

BM_WARE is a software for the configuration and calibration of the units with a PC is available too, it has HART communication protocol and it is used with a standard HART MODEM (mandatory).

BM COMPACT GUIDED WAVE series has a wide range of options about the process connections or detectors. These options make the devices suitable in different working conditions, such as high temperature, high pressure, etc.

PRODUCTS OVERWIEV

GUIDE WAVE GW51

GUIDE WAVE GW52

GUIDE WAVE GW53

GUIDE WAVE GW54

GUIDE WAVE GW55

GUIDE WAVE GW56

EIP COMPACT GUIDE WAVE

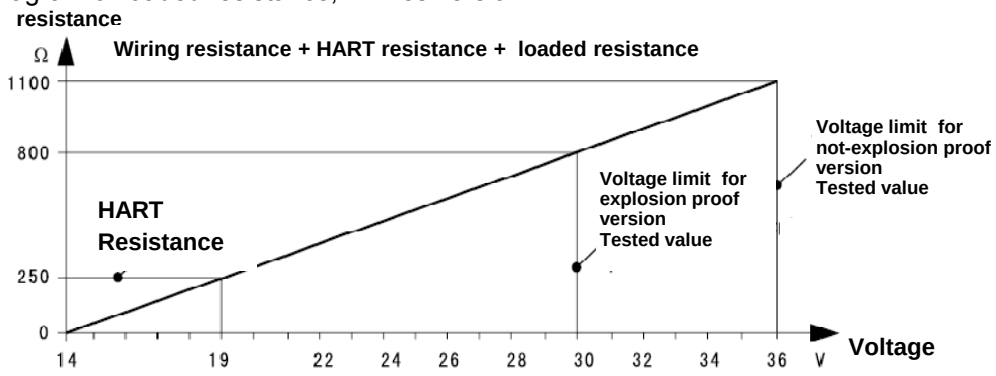
TECHNICAL DETAILS

GW51 for liquids and solids

Applications:
Level measurement of liquids and solids, suitable for critical enviroments.

Max measurable distance:	until 32 m
Accuracy:	±10 mm
Process connection:	G 1½ A - 1½ NPT
Antenna:	Probe
Materials: probe:	AISI 316L / PTFE
cable:	AISI 316L / PTFE
housing:	plastic PBT-FR / Aluminium / AISI 316L
Working temperature:	-40 ÷250°C
Storage temperature:	-40 ÷ 80°C
Relative umidity:	<95%
Pressure of use:	-1 ÷ 40 bar
Resistance to vibrations:	mechanical vibrations 10m/s2, 10÷150Hz
Interval of measure:	~1sec
Interval of updating:	~1sec
Resolution of display:	1mm
Max loaded allowable:	see diagrams following pages
Max loaded allow. values guide:	cable Ø 4mm = 5KN; cable Ø 6mm = 30KN
Max loaded side, values guide:	pole Ø 6mm = 4NM; pole Ø 16mm = 30NM
Supply 2 wires version:	
- Input voltages:	15÷36Vdc
- Absorption:	max. 22.5mA
- Ripple allowed:	<100Hz, Uss>1V; 100Hz÷10KHz, Uss<10mV
Supply 4 wires version:	
- Standard input voltages :	24Vdc ±10%; 230Vac ±10%
- Absorption:	max. 22.5mA
Output signal:	2/4 wires 4-20 mA, HART
Resolution:	6µA
Fixed signal for anomaly:	20.5mA; 22mA; 3.6mA
Resistance 2 wires version:	see following diagram
Resistance 4 wires version:	max 500 ohm
Integration time:	0÷999s, programmable
Cables entry:	1x PG 13.5
Weight:	until 9 kgs (its depend by type of housing and mounting)

Diagram of loaded resistance, 2 wires version



EIP COMPACT GUIDE WAVE

ORDERING CODE GW51

P Standard

Type of Detecting Component /Material

A Rope /AISI 316L / PTFE
B Rod/ AISI 316L / PTFE
C Rope/ AISI 316L / Lengthen PP
D Rod/ AISI 316L / Lengthen PP
E Rope/ AISI 316L / Lengthen PTFE
F Rod/ AISI 316L / Lengthen PTFE
X Special Type (on request)*

Process Connections

GP Thread G 1½ A
KP Thread G 2A
NP Thread 1½ NPT
YP Special Type (on request)*

Retained seal / Working temperature

A Viton / -30…150°C
B Kalrez / -40…250°C

Electronic

B 4…20 mA HART (2 wires)
C 4…20 mA / 22,8…26,4 VDC/ 4 wires**
D 4…20 mA /198…242 VDC HART (4 wires)**

Housing Material / General Protection

B Plastic / IP66
A Aluminium / IP67
D Aluminium (2 chambers) / IP67**
G AISI 316L / IP67

Wiring

M M20x1.5
N ½ NPT

Display / Programming

Cable lenght / pole

Enter a Five-Digit value in mm

** ON REQUEST FOR QUANTITIES > 10 PCS ONLY.*

***With Electronic code "C" or "D" (4 wires versions), Housing code "D" (Aluminium - 2 chambers) is mandatory*

EIP COMPACT GUIDE WAVE

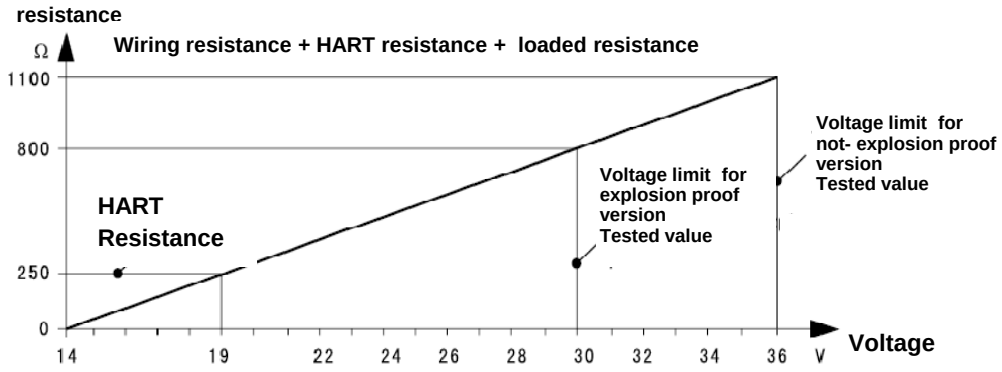
TECHNICAL DETAILS

GW52 for liquids and solids

Applications:
Level measurement of liquids and solids, suitable for critical enviroments.

Max measurable distance:	until 6 m
Accuracy:	±10 mm
Process connection:	Flange
Antenna:	Rope
Materials: pole:	PTFE
housing:	plastic PBT-FR / Aluminium / AISI 316L
Working temperature:	-40 ÷150°C
Storage temperature:	-40 ÷ 80°C
Relative umidity:	<95%
Pressure of use:	-1 ÷ 40 bar
Resistance to vibrations:	mechanical vibrations 10m/s2, 10÷150Hz
Interval of measure:	~1sec
Interval of updating:	~1sec
Resolution of display:	1mm
Max loaded allowable:	see diagrams following pages
Max loaded allow. values guide:	cable Ø 4mm = 5KN; cable Ø 6mm = 30KN
Max loaded side, values guide:	pole Ø 6mm = 4NM; pole Ø 16mm = 30NM
Supply 2 wires version:	
- Input voltages:	15÷36Vdc
- Absorption:	max. 22.5mA
- Ripple allowed:	<100Hz, Uss>1V; 100Hz÷10KHz, Uss<10mV
Supply 4 wires version:	
- Standard input voltages :	24Vdc ±10%; 230Vac ±10%
- Absorption:	max. 22.5mA
Output signal:	2/4 wires 4-20 mA, HART
Resolution:	6µA
Fixed signal for anomaly:	20.5mA; 22mA; 3.6mA
Resistance 2 wires version:	see following diagram
Resistance 4 wires version:	max 500 ohm
Integration time:	0÷999s, programmable
Cables entry:	1x PG 13.5
Weight:	until 5.5 kgs (its depend by type of housing and mounting)

Diagram of loaded resistance, 2 wires version



EIP COMPACT GUIDE WAVE

ORDERING CODE GW52

P Standard

Type of Detecting Component/ Material

A Rope/ PTFE

Connection / Material

GP Flange DN50 PN16 AISI 316L (GB/T9119-2000)
NP Flange DN80 PN16 AISI 316L (GB/T9119-2000)
EP Flange DN100 PN16 AISI 316L (GB/T9119-2000)
FP Flange DN150 PN16 AISI 316L (GB/T9119-2000)
YP Special Connection (on request)*

Retained seal / Working temperature

A PTFE / -30…150°C

Electronic

B 4…20 mA HART (2 wires)
C 4…20 mA / 22,8…26,4 VDC/ HART 4 wires**
D 4…20 mA / 198…242 VAC / HART (4 wires)**

Housing Material / General Protection

B Plastic / IP66
A Aluminium / IP67
D Aluminium (2 chambers) / IP67**
G AISI 316L / IP67

Wiring

M M20x1.5
N ½ NPT

Display / Programming

A YES

Cable length / pole

Enter a Four-Digit value in mm

** ON REQUEST FOR QUANTITIES > 10 PCS ONLY.*

***With Electronic code "C" or "D" (4 wires versions), Housing code "D" (Aluminium - 2 chambers) is mandatory*

NOTE:

• The size of the flange refers to GB/T9119-2000 PN16. the thickness of the flange is 15mm.

EIP COMPACT GUIDE WAVE

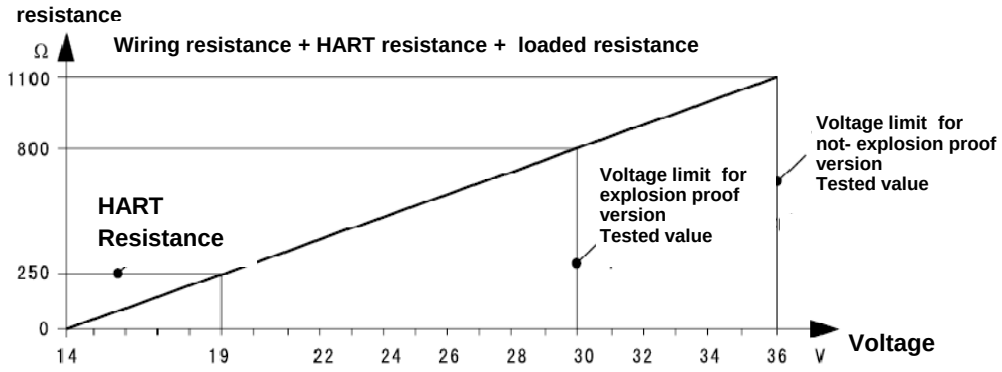
TECHNICAL DETAILS

GW53 for liquids

Applications:
Level measurement of liquids, suitable for those with dielectric low constant, in critical enviroments.

Max measurable distance:	until 6 m
Accuracy:	±10 mm
Process connection:	G 1½ A - 1½ NPT
Antenna:	Pole coaxial Ø 28 mm
Materials: pole:	AISI 316L
housing:	plastic PBT-FR / Aluminium / AISI 316L
Working temperature:	-40 ÷250°C
Storage temperature:	-40 ÷ 80°C
Relative umidity:	<95%
Pressure of use :	-1 ÷ 40 bar
Resistance to vibrations:	mechanical vibrations 10m/s2, 10÷150Hz
Interval of measure:	~1sec
Interval of updating:	~1sec
Resolution of display:	1mm
Max loaded allowable:	see diagrams following pages
Max loaded allow. values guide:	cable Ø 4mm = 5KN; cable Ø 6mm = 30KN
Max loaded side, values guide:	pole Ø 6mm = 4NM; pole Ø 16mm = 30NM
Supply 2 wires version:	
- Input voltages:	15÷36Vdc
- Absorption:	max. 22.5mA
- Ripple allowed:	<100Hz, Uss>1V; 100Hz÷10KHz, Uss<10mV
Supply 4 wires version:	
- Standard input voltages :	24Vdc ±10%; 230Vac ±10%
- Absorption:	max. 22.5mA
Output signal:	2/4 wires 4-20 mA, HART
Resolution:	6µA
Fixed signal for anomaly:	20.5mA; 22mA; 3.6mA
Resistance 2 wires version:	see following diagram
Resistance 4 wires version:	max 500 ohm
Integration time:	0÷999s, programmable
Cables entry:	1x PG 13.5
Weight:	until 6 kgs (its depend by type of housing and mounting)

Diagram of loaded resistance, 2 wires version



EIP COMPACT GUIDE WAVE

ORDERING CODE GW53

P Standard

Type of Detecting Component/ Material

A Coaxial pole Ø 28mm / AISI 316L

Connections / Material

GP Thread G 1 ½" A

KP Thread G 2" A

NP Thread G 1 ½" NPT

YP Special Connection (on request)*

Retained seal / Working temperature

A Viton / -30…150°C

B Kalrez / -40…150°C

Electronic

B 4…20 mA HART (2 wires)

C 4…20 mA / 22,8…26,4 VDC 4 wires**

D 4…20 mA / 198…242 VAC / HART (4 wires)**

Housing Material / General Protection

A Aluminium / IP67

B Plastic / IP66

D Aluminium (2 chambers) / IP67**

G AISI 316L / IP66

Wiring

M M20x1.5

N ½ NPT

Display / Programming

A YES

Rod Length

Enter a Four-Digit value in mm

** ON REQUEST FOR QUANTITIES > 10 PCS ONLY.*

***With Electronic code "C" or "D" (4 wires versions), Housing code "D" (Aluminium - 2 chambers) is mandatory*

EIP COMPACT GUIDE WAVE

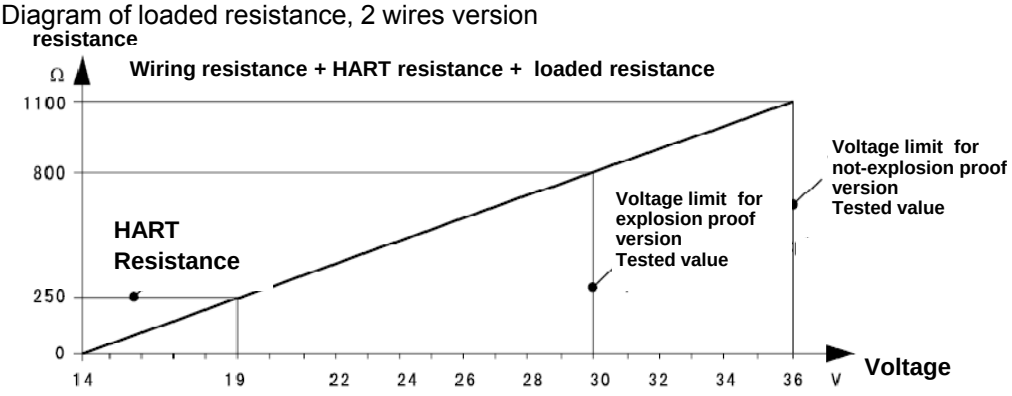
TECHNICAL DETAILS

GW54 for liquids

Applications: Level measurement of liquids, suitable for critical enviroments, to high temperature and high pressure.

Max measurable distance:	until 6 m (pole), until 30 m (probe)
Accuracy:	±10 mm
Process connection:	G 1½ A - 1½ NPT
Antenna:	Pole / Probe
Materials: pole:	AISI 316L
probe:	AISI 316L
housing:	plastic PBT-FR / Aluminium / AISI 316L
Working temperature:	-40 ÷250°C
Storage temperature:	-40 ÷ 80°C
Relative umidity:	<95%
Pressure of use:	-1 ÷ 40 bar
Resistance to vibrations:	mechanical vibrations 10m/s2, 10÷150Hz
Interval of measure:	~1sec
Interval of updating:	~1sec
Resolution of display:	1mm
Max loaded allowable:	see diagrams following pages
Max loaded allow. values guide:	cable Ø 4mm = 5KN; cable Ø 6mm = 30KN
Max loaded side, values guide:	pole Ø 6mm = 4NM; pole Ø 16mm = 30NM
Supply 2 wires version:	
- Input voltages:	15÷36Vdc
- Absorption:	max. 22.5mA
- Ripple allowed:	<100Hz, Uss>1V; 100Hz÷10KHz, Uss<10mV
Supply 4 wires version:	
- Standard input voltages :	24Vdc ±10%; 230Vac ±10%
- Absorption:	max. 22.5mA
Output signal:	2/4 wires 4-20 mA, HART
Resolution:	6µA
Fixed signal for anomaly:	20.5mA; 22mA; 3.6mA
Resistance 2 wires version:	see following diagram
Resistance 4 wires version:	max 500 ohm
Integration time:	0÷999s, programmable
Cables entry:	1x PG 13.5
Weight:	until 12 kgs (its depend by type of housing and mounting)

Diagram of loaded resistance, 2 wires version



EIP COMPACT GUIDE WAVE

ORDERING CODE GW54

P Standard

Type of Detecting Component / Material

A Rope / AISI 316L / PTFE
B Rod /AISI 316L / PTFE
C Rope / AISI 316L / Lengthen PP
D Rod / AISI 316L / Lengthen PP
E Rope / AISI 316L / Lengthen PTFE
F Rod / AISI 316L / Lengthen PTFE
X Special Type (on request)*

Connections

GP Thread G 1½ A
KP Thread G 2A
NP Thread 1½ NPT

Retained seal / Working temperature

A Viton / -30…250°C
B Kalrez / -40…250°C

Electronic

B 4…20 mA HART (2 wires)
C 4…20 mA / 22,8…26,4 VDC HART 4 wires**
D 4…20 mA / 198…242 VAC HART 4 wires**

Housing Material / General Protection

A Aluminium / IP67
B Plastic / IP66
D Aluminium (2 chambers) / IP67**
G AISI 316L / IP67

Wiring

M M20x1.5
N ½ NPT

Display / Programming

A YES

Cable length / pole

Enter a Five-Digit value in mm

** ON REQUEST FOR QUANTITIES > 10 PCS ONLY.*

***With Electronic code "C" or "D" (4 wires versions), Housing code "D" (Aluminium - 2 chambers) is mandatory*

EIP COMPACT GUIDE WAVE

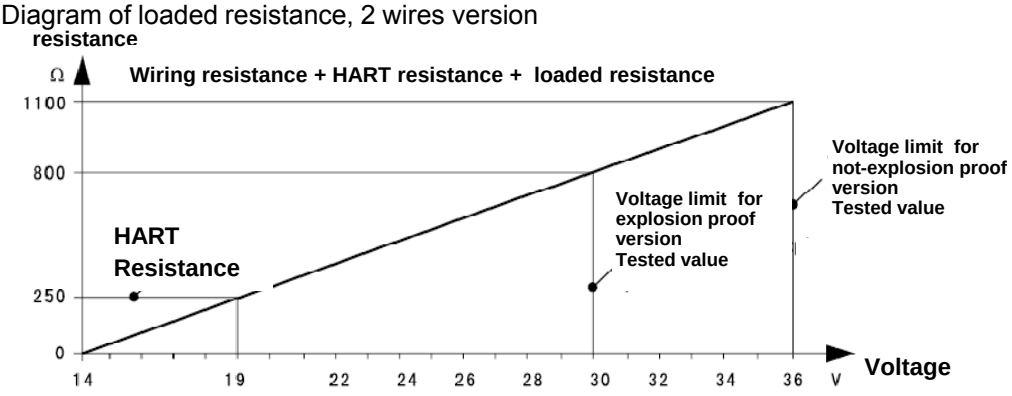
TECHNICAL DETAILS

GW55 for liquids

Applications: Level measurement in liquids, suitable for critical enviroments, to high temperature and high pressure.

Max measurable distance:	until 6 m (pole), until 30 m (probe)
Accuracy:	±10 mm
Process connection:	G 1½ A - 1½ NPT
Antenna:	Pole / Probe
Materials: pole:	AISI 316L / Ceramic
probe:	AISI 316L / Ceramic
housing:	plastic PBT-FR / Aluminium / AISI 316L
Working temperature:	-200 ÷400°C
Storage temperature:	-40 ÷ 80°C
Relative umidity:	<95%
Pressure of use:	-1 ÷ 40 bar
Resistance to vibrations:	mechanical vibrations 10m/s2, 10÷150Hz
Interval of measure:	~1sec
Interval of updating:	~1sec
Resolution of display:	1mm
Max loaded allowable:	see diagrams following pages
Max loaded allow. values guide:	cable Ø 4mm = 5KN; cable Ø 6mm = 30KN
Max loaded side, values guide:	pole Ø 6mm = 4NM; pole Ø 16mm = 30NM
Supply 2 wires version:	
- Input voltages:	15÷36Vdc
- Absorption:	max. 22.5mA
- Ripple allowed:	<100Hz, Uss>1V; 100Hz÷10KHz, Uss<10mV
Supply 4 wires version:	
- Standard input voltages :	24Vdc ±10%; 230Vac ±10%
- Absorption:	max. 22.5mA
Output signal:	2/4 wires 4-20 mA, HART
Resolution:	6µA
Fixed signal for anomaly:	20.5mA; 22mA; 3.6mA
Resistance 2 wires version:	see following diagram
Resistance 4 wires version:	max 500 ohm
Integration time:	0÷999s, programmable
Cables entry:	1x PG 13.5
Weight:	until 9 kgs (its depend by type of housing and mounting)

Diagram of loaded resistance, 2 wires version



EIP COMPACT GUIDE WAVE

ORDERING CODE GW55

P Standard

Type od Detecting Component / Material

A Rope/ AISI 316L / Ceramic

B Rod /AISI 316L / Ceramic

Connections

GP Thread G 1½ A

KP Thread G 2A

NP Thread 1½ NPT

YP Special Connection (on request)*

Electronic

B 4…20 mA HART(2wires)

C 4…20 mA / 22,8…26,4 VDC HART 4 wires**

D 4…20 mA / 198…242 VAC HART 4 wires**

Housing Material / General Protection

B Plastic / IP66

A Aluminium / IP67

D Aluminium (2 chambers) / IP67**

G AISI 316L / IP67

Working temperature

A -200….400°C

Wiring

M M20x1.5

N ½ NPT

Display / Programming

A YES

Cable length / pole

Enter a Five-Digit value in mm

** ON REQUEST FOR QUANTITIES > 10 PCS ONLY.*

***With Electronic code "C" or "D" (4 wires versions), Housing code "D" (Aluminium - 2 chambers) is mandatory*

EIP COMPACT GUIDE WAVE

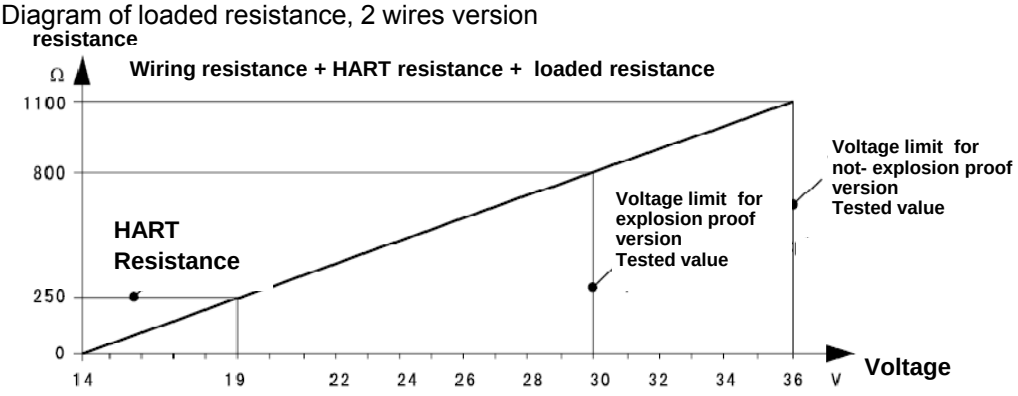
TECHNICAL DETAILS

GW56 for liquids and dust

Applications: Level measurement in liquids, suitable for critical enviroments, with dielectric low constant.

Max measurable distance:	until 6 m (pole), until 30 m (probe)
Accuracy:	±10 mm
Process connection:	G 1½ A - 1½ NPT
Antenna:	Pole / Probe
Materials: pole:	AISI 316L / PTFE
probe:	AISI 316L / PTFE
housing:	plastic PBT-FR / Aluminium / AISI 316L
Working temperature:	-40 ÷250°C
Storage temperature:	-40 ÷ 80°C
Relative umidity:	<95%
Pressure of use:	-1 ÷ 40 bar
Resistance to vibrations:	mechanical vibrations 10m/s2, 10÷150Hz
Interval of measure:	~1sec
Interval of updating:	~1sec
Resolution of display:	1mm
Max loaded allowable:	see diagrams following pages
Max loaded allow. values guide:	cable Ø 4mm = 5KN; cable Ø 6mm = 30KN
Max loaded side, values guide:	pole Ø 6mm = 4NM; pole Ø 16mm = 30NM
Supply 2 wires version:	
- Input voltages:	15÷36Vdc
- Absorption:	max. 22.5mA
- Ripple allowed:	<100Hz, Uss>1V; 100Hz÷10KHz, Uss<10mV
Supply 4 wires version:	
- Standard input voltages :	24Vdc ±10%; 230Vac ±10%
- Absorption:	max. 22.5mA
Output signal:	2/4 wires 4-20 mA, HART
Resolution:	6µA
Fixed signal for anomaly:	20.5mA; 22mA; 3.6mA
Resistance 2 wires version:	see following diagram
Resistance 4 wires version:	max 500 ohm
Integration time:	0÷999s, programmable
Cables entry:	1x PG 13.5
Weight:	until 9 kgs (its depend by type of housing and mounting)

Diagram of loaded resistance, 2 wires version



EIP COMPACT GUIDE WAVE

ORDERING CODE GW56

P Standard

Type of Detecting Component / Material

A 2-Rope / AISI 316L / PTFE

B 2-Rod / AISI 316L / PTFE

Connections / Material

GP Thread G 1½ A AISI 316L

KP Thread G 2A AISI 316L

NP Thread 1½ NPT AISI 316L

YP Specail Connection (on request)*

Electronic

B 4…20 mA HART (2 wires)

C 4…20 mA / 22,8…26,4 VDC HART 4 wires**

D 4…20 mA / 198…242 VAC / HART 4 wires**

Retained seal / Working temperature

A Viton / -30…150°C

B Kalrez / -40…250°C

Housing Material / General Protection

A Aluminium / IP67

B Plastic / IP66

D Aluminium (2 chambers) / IP67**

G AISI 316L / IP67

Wiring

M M20x1.5

N ½ NPT

Display / Programming

A YES

Cable length / pole

Enter a Five-Digit value in mm

** ON REQUEST FOR QUANTITIES > 10 PCS ONLY.*

***With Electronic code "C" or "D" (4 wires versions), Housing code "D" (Aluminium - 2 chambers) is mandatory*

EIP
ENVIRO CONTROLS
An ISO 9001:2008 Certified Company

About EIP

EIP was founded about two decades ago, since then the company has been able to establish its reputation in the field of Design / Manufacture Supply of accurate reliable POINT LEVEL AND INVENTORY CONTROL SYSTEMS which have proven to be in satisfactory operation under harsh environmental conditions. Apart from India EIP products have also been proven in other countries.

EIP aims to provide not only stable operating system but also to re-engineer equipments and systems as per the needs of the customers. This has been possible due to our wide experience in this field backed by constant technological development and absorption of new technologies developed world-wide.

EIP's strong endevour to provide the best solution to its customers has gone a long way in introducing the most advanced level measurement technology from time to time. Recent value addition to this is the STRAIN GAUGE/CELL which solves the inventory problems with high accuracy, easy installation and low maintenance.

EIP has also diversified its portfolio to provide Zero leakage Knife Gate Valves, Butterfly Valves and Water Control Gate.

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