



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



Services



Solutions

Technical Information

Promonitor NRF560

Tank side monitor

For tank side monitoring and controlling of Proservo NMS 5 intelligent tank gauge



Application

Promonitor NRF560 is a monitoring unit for use with the Proservo series of tank gauges.

Mounted at the tank side or up to 1200 meters away (local HART connection).

Promonitor provides indication of measured level, temperature data and operating status, and can send operating commands to the Proservo NMS 5 from a convenient location.

Features and benefits

- Remote monitoring and control for Proservo tank gauge
- Indication via two line illuminated display
- Operation via 3 optical keys (touch control) and Endress+Hauser user friendly
- Programming matrix
- Protection class IP 67 housing
- Explosion proof for hazardous area mounting

Table of Contents

Function and system design	3	Ambient condition.	8
System design	3	Ambient temperature	8
Input	4	Ingress protection	8
Measured variables	4	Human interface	8
Communication	4	Display element	8
Auxiliary energy	4	Operating element	9
Power Supply	4	Certificates and approvals	9
Current Consumption	4	CE approvals	9
Grounding	4	Ex approvals	9
Electrical connection	5	External standards and guide line	9
NRF560 Terminal	5	Ordering Information	10
Performance characteristics	5	Promonitor NRF560	10
Display(LCD)	5	Accessories	11
Installation conditions	6	Mounting bracket	11
Wiring	6	Supplementary Documentation	12
Dimensions	6	Technical Information	12
Weight	6	Operating Instructions	12
Housing material	6	Safety Instructions	12
Mounting	7		
Mounting on the wall	7		
Engaging the display andoperating elements	7		
Mounting on a 2"(50mm) pipe	8		

Function and system design

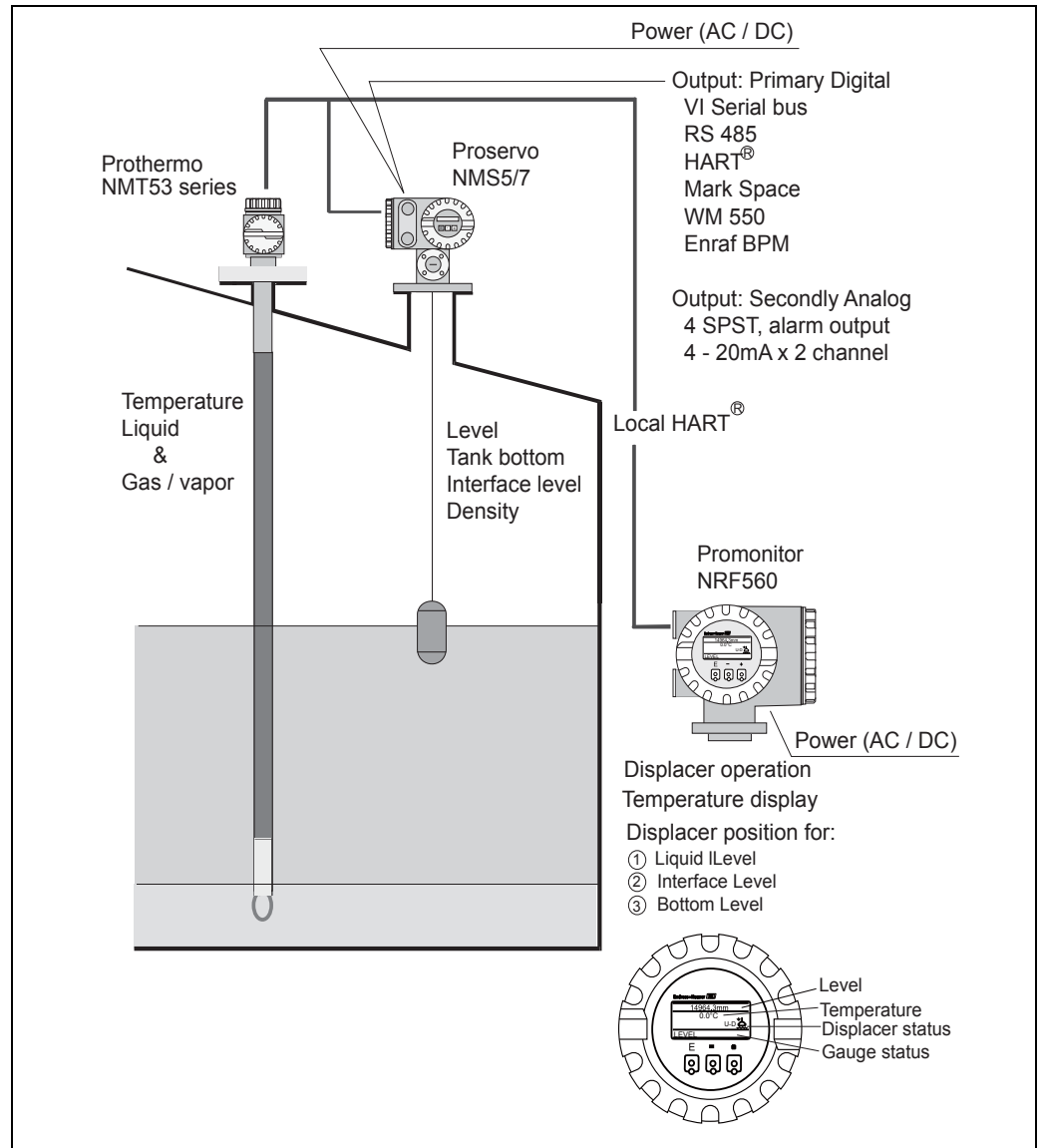
System design

The Promonitor NRF 560 is a tank side monitor and control station for the Proservo NMS5 of intelligent tank gauges.

The Promonitor NRF 560 is a simple low-cost tank site monitor for displaying interface level, tank bottom level, and temperature. Additionally, the Proservo NMS5 can be operated to measure the level, interface level, bottom level, or to hoist the displacer.

The tank gauge is operated by three visual operating elements ("touch control").

For the transmission between the Proservo NMS5 and the Promonitor NRF 560, a two-wire HART® protocol is utilized.



Input

Measured variables Multidrop local HART®

Communication 2 wire, Endress + Hauser HART® protocol to host commanding gauge
 ■ Proservo NMS5

Auxiliary energy

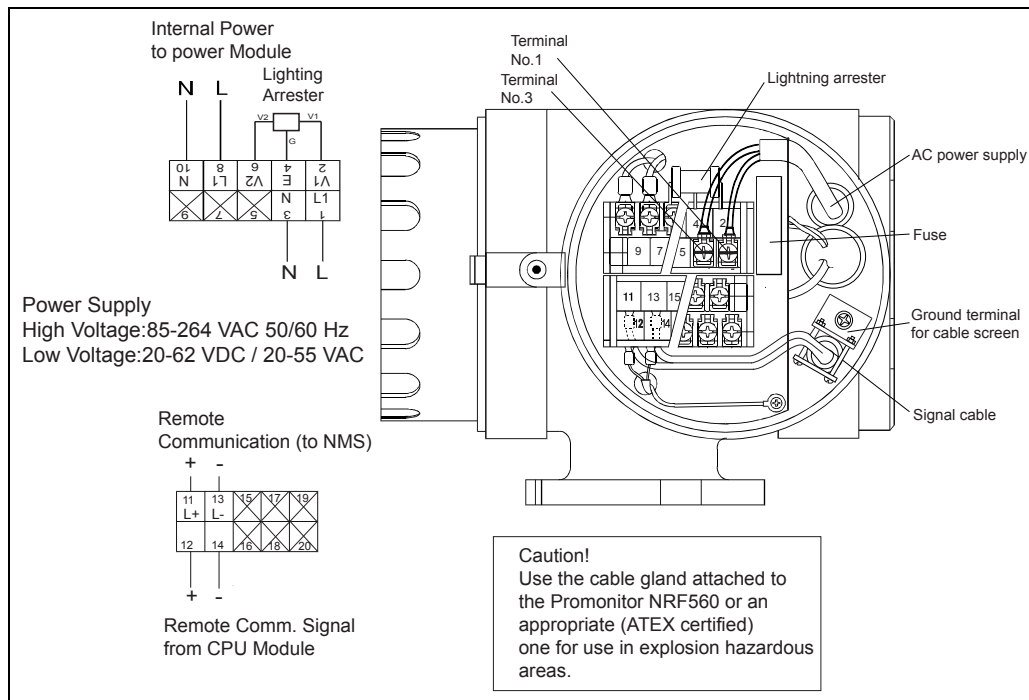
Power Supply 85-264VAC, 50/60Hz, 25VA
 20-62VDC, 25VA/20-55, 50/60Hz, 25VA

Current Consumption Maximum 10 VA

Grounding The NRF560 must be grounded to the tank potential before connection to host gauge. All ground connections must be compliant with local and company regulations, and checked before the equipment is commissioned.

Electrical connection

NRF560 Terminal



Check that the power supply of the Promonitor is turned off.
 Insert AC power supply and signal cable from each side of the cable entries. Establish a grounding for the signal cable screen.
 Connect cables to each terminal. We recommend a crimped connection.
 After completing all electric connections, screw the terminal cover and hook its lock (shroud).
 During the installation take care of mounting the conductor in such a way that selfloosening and corrosive effects will be prevented.

Performance characteristics

Display(LCD)

4 lines. 128 x 64 (pixels)
 Language selection:
 English, Chinese, Japanese

Installation conditions

Wiring

The following cable entries are available:

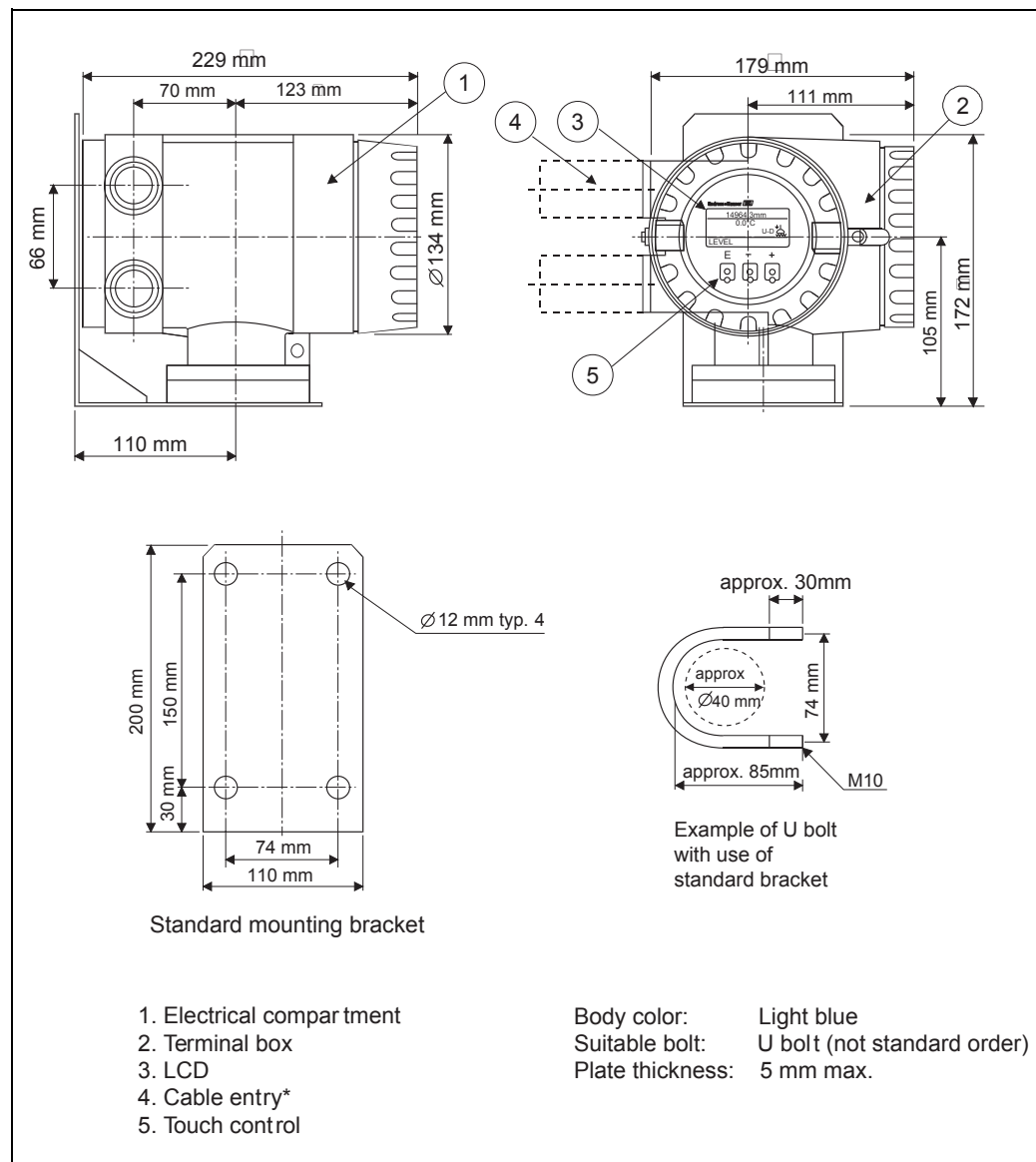
- G PF 1/2
- NPT 1/2"
- PG 16
- M 20

Note!

For Ex d IIB T4 IIIS explosion-proof, the same class of cable gland is standard.

For Ex d IIC T4 CENELEC, Ex d IIC T4 ATEX explosion-proof, however, cable gland will not be supplied.

Dimensions



Weight

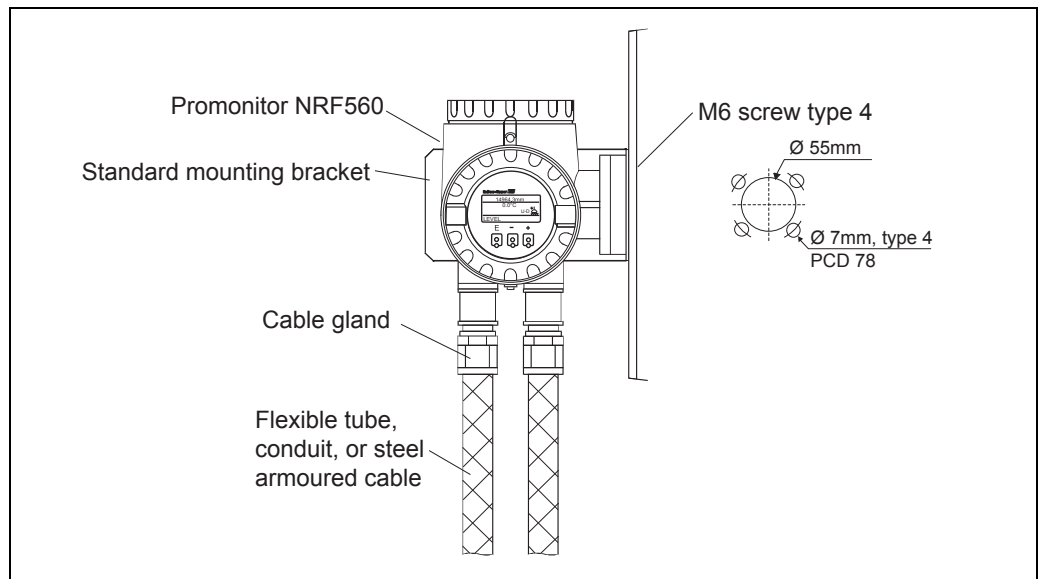
Approx. 6.5 kg

Housing material

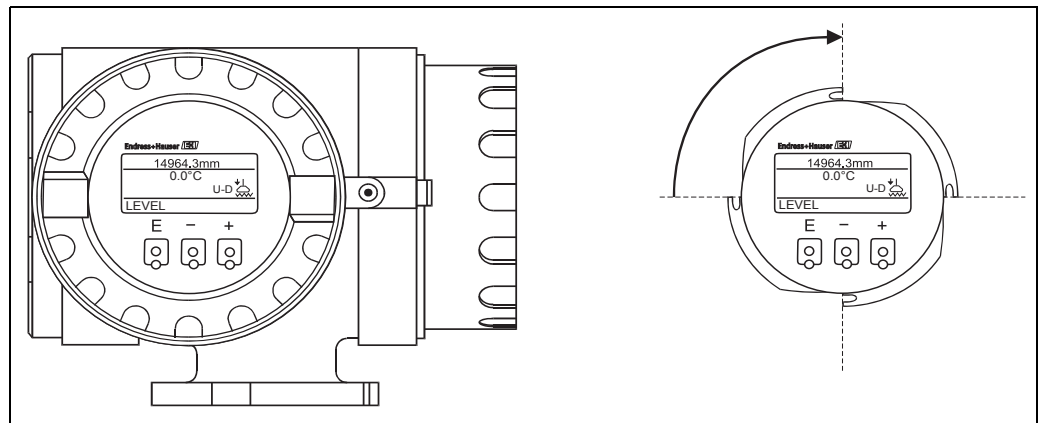
Aluminium, coated with rust-inhibitor paint

Mounting

Mounting on the wall



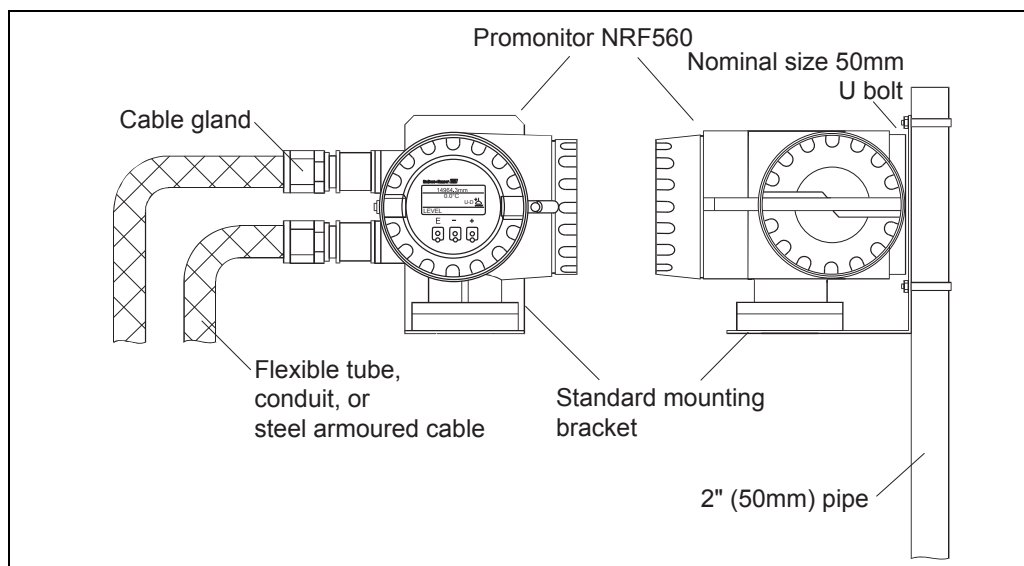
Engaging the display and operating elements



Note!

After removal of the cover, the display and operating elements of the Promonitor NRF560 can be engaged in steps of 90°.

Mounting on a 2" (50mm) pipe



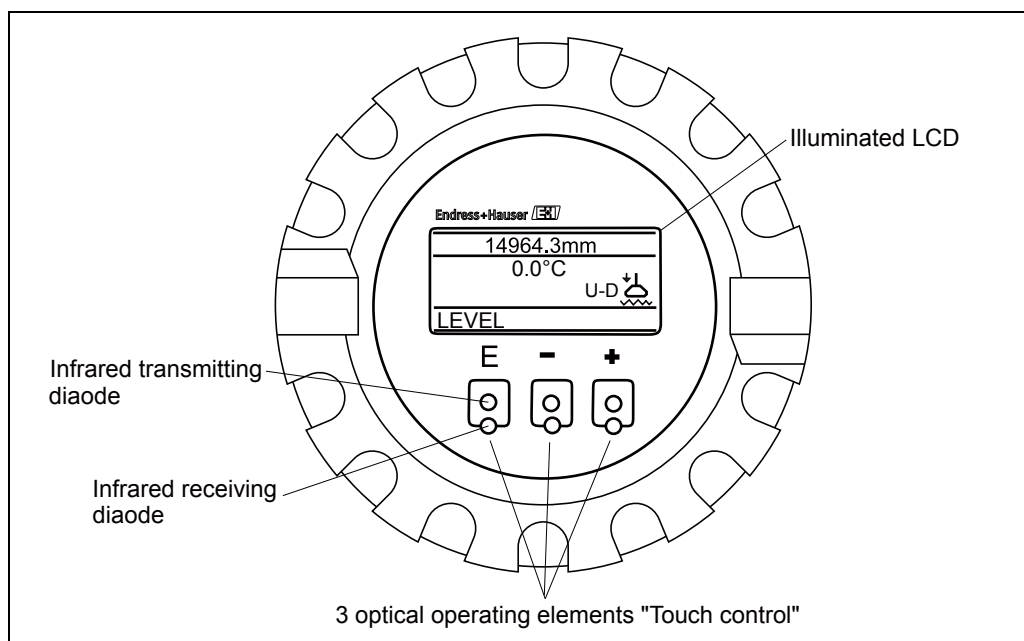
Ambient condition

Ambient temperature	-20...+60°C (-4...+140°F) (converter housing)
Ingress protection	IP67

Human interface




Display element

The Promonitor NRF560 has an illuminated LCD that consists of 4 lines with 128 x 64 pixels). During normal operation, it shows the level, the temperature, and the status of the device on the "HOME" position. For the display of the other data and the programming of the parameters for operation, the Promonitor NRF560 uses a convenient programming matrix.



Operating element

The Promonitor NRF560 is operated by three visual operating elements, namely the keys "E", "-", and "+". They are activated when the appropriate field on the protective glass of the display is touched with the finger ("touch control"). The software and hardware installed in the Promonitor NRF560 rule out any malfunction that may be caused in this way. Even in explosion hazardous areas, the explosion-proof housing of the touch control ensures safe access to the data.

Key	Function
	<ul style="list-style-type: none"> ■ Access to the programming matrix (touching the key for more than 3 s) ■ Return to the HOME position (touching the key for more than 3 s) ■ Moving horizontally within a function group to select functions ■ Saving parameters or access code
 	<ul style="list-style-type: none"> ■ Moving vertically to select function groups ■ Selecting or setting parameters ■ Setting access code

Certificates and approvals

CE approvals

By attaching the CE - mark, Endress+Hauser confirms that the instruments pass the required tests.

Ex approvals

See ordering information

External standards and guide line**EN 50081-1**

Immunity to surge on data lines

EN 50082-2

Immunity to burst on data lines

Ordering Information

Promonitor NRF560

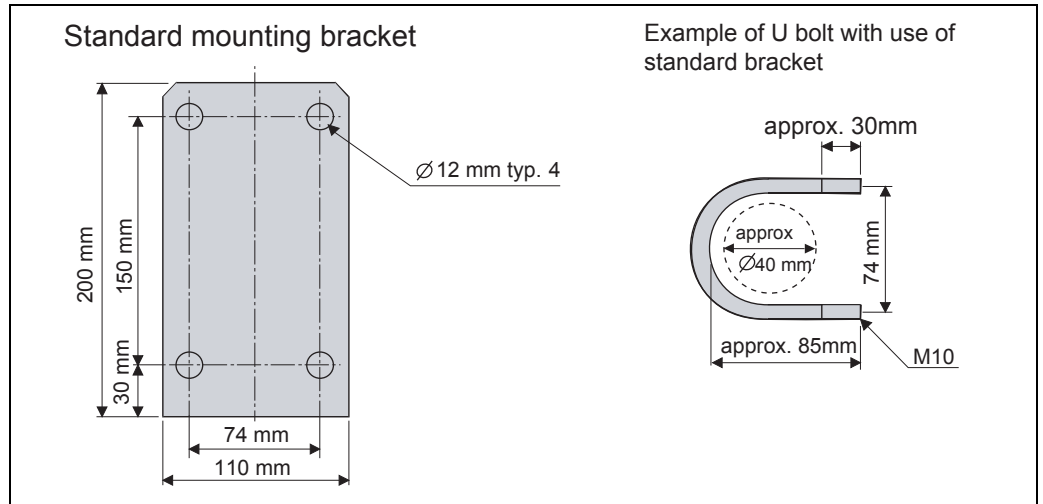
10	Protection class			
	0	Weather proof; IP67 NEMA 4X		
	1	Flame proof, Ex d IIB T4 TIIIS		
	2	Flame proof, Ex d IIC T4 CENELEC		
	4	Flame proof, XP Class1.I, Div.1, Gr.A-D FM		
	5	Flame proof, Class1.I, Div.1, Gr.A-D CSA		
6	Flame proof, Ex d IIC T4 ATEX			
9	special version			
20	Cable entry			
	A	2 x thread G PF1/2		
	B	2 x thread NPT1/2		
	C	2 x thread PG16		
	D	2 x thread M20		
	Y	special version		
30	Power Supply			
	3	85-264 VAC, 50/60Hz, 25VA		
	4	20-62VDC, 25V / 20-55V, 50/60Hz, 25V		
	9	special version		
40	Mounting Bracket			
	0	not selected		
	1	selected		
	9	special version		
50	Colour			
	0	blue, basic version		
	9	special version		
NRF560-				
				Complete product designation

Accessories

Mounting bracket

Note!

U bolt is not attached to the mounting bracket. If you have need U bolt, please contact Endress+Hauser .



Supplementary Documentation

Technical Information

TI 006N

Technical Information Proservo NMS5

Operating Instructions

BA 1003N

Operating Instructions Promonitor NRF560

BA 1001N

Operating Instructions Proservo NMS5

Safety Instructions

XA 003N

Promonitor NRF560 - ZELM 03 ATEX 0154

Japan

Endress + Hauser Yamanashi Co., Ltd.
862-1 Mitsukunugi Sakaigawa-cho
Fuefuki-shi Yamanashi,
406-0846 Japan

Phone: ++81 55 266 4964
Fax: ++81 55 266 4969
<http://www.endress.com>

Endress+Hauser 
People for Process Automation