

Mark X if none											
						X				X	X
Sample											
NCR-80.	IX	C	SD	A	H	X	A	N	A	X	X

## Display

X: X - No Bindisc - No Window (1, 2, 3)  
 A: A - Bindisc Top Mounted with Window (1, 2, 3)  
 F: F - No Bindisc - With Window Top (2, 3)  
 B: B - Bindisc Side Mounted with Window (1, 2)

## Connection

N: N - Two 1/2" NPT / blind plug (1, 2, 3)  
 Q: Q - Two 1/2" NPT / without plug (1, 2, 3)

## Housing

A: A - Aluminium single chamber (1, 2)  
 K: K - Plastic single chamber (1, 2)  
 8: 8 - Stainless steel single chamber (1, 2)  
 R: R - Plastic double chamber (1, 2)  
 V: V - Stainless steel single chamber (Cast) (1, 2, 3)  
 W: W - Stainless steel double chamber (1, 2, 3)  
 D: D - Aluminium double chamber (1, 2, 3)

## Output

H: H - Two wire 4-20mA (1, 2, 3)  
 U: U - Four-wire Modbus (1, 2, 3)  
 B: B - Four-wire 4-20mA (1, 2, 3)  
 I: I - Four-wire 4-20mA (1, 2, 3)  
 P: P - Two-wire Profibus PA (1, 2, 3)

## Seal

C: C - No Seal (1)  
 D: D - FKM (1)  
 E: E - EPDM (1)  
 F: F - EPDM (2, 3)  
 A: A - FKM (2, 3)  
 B: B - FKM (2, 3)

## Mounting

XX: XX - No Mounting (1)  
 XC: XC - 6.7" Mounting Strap (1)  
 XD: XD - 11.8" Mounting Strap (1)  
 AU: AU - 3" PP-GF30 Flange (1)  
 AL: AL - 4" PP-GF30 Flange (1)  
 AO: AO - 8" PP-GF30 Flange (1)  
 AM: AM - 6" PP-GF30 Flange (1)  
 TD: TD - Thread 1 1/2" NPT PN20, ASME B1.20.1 / 316L (2)  
 FD: FD - Flange 3" 150lb FF, ASME / 316 / 316L (3)  
 FE: FE - Flange 4" 150lb FF, ASME / 316 / 316L (3)  
 FF: FF - Flange 6" 150lb FF, ASME / 316 / 316L (3)  
 SD: SD - Swiveling holder with flange 4" 150lb / 316 / 316L (3)  
 SE: SE - Swiveling holder with flange 6" 150lb / 316 / 316L (3)  
 SF: SF - Swiveling holder with flange 8" 150lb / 316 / 316L (3)

## Version

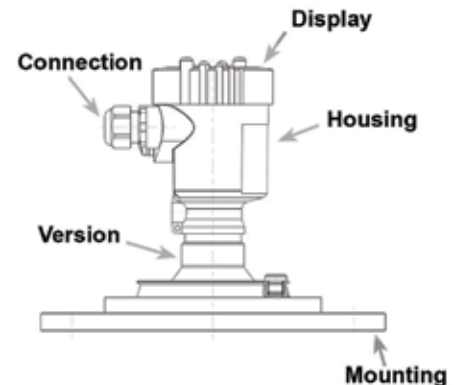
B: B - Plastic horn antenna (1)  
 T: T - Thread (2)  
 C: C - Metal jacketed lens antenna (3)

## Approvals

CC: CC - CSA (IS) Class I (1, 3)  
 CD: CD - CSA (XP-AIS) Class I (1, 3)  
 CE: CE - CSA (XP) Class I (1, 3)  
 CR: CR - CSA (DIP) Class II (1, 3)  
 IX: IX - Designed for unclassified area (1, 2, 3)  
 FC: FC - FM (IS) Class I, II, III (1, 3)  
 FD: FD - FM (XP-AIS) Class I (1, 3)  
 FR: FR - FM (DIP) Class II (1, 3)  
 FE: FE - FM (XP) Class I (1, 3)

## Power Pac

NCR-80.: 80 GHz Radar



1: Plastic  
 2: Thread  
 3: Metal



## NCR-80

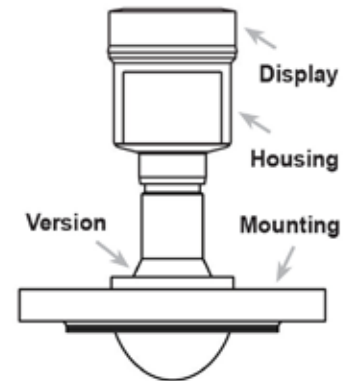
Non-contact radar continuously measures the level of powders, granules, solids, or liquids in a vessel. Reliable and precise in high dust, 80 GHz non-contact radar excels in powders and solids in tall and narrow vessels. Pulse radar transmitters using a lower frequency are more commonly used in liquids and perform in diverse tank shapes and environmental conditions.

Description	CODE	Part No.
<b>BASE UNIT</b>		
80 GHz Radar Level Sensor	NCR-80.	
<b>APPROVALS</b>		
Approvals: CC - CSA (IS) Class I, II, III, Div 1, Groups A, B, C, D, E, F, G	CC	
Approvals: CD - CSA (XP-AIS) Class I, Div 1, Groups A, B, C, D, (DIP-AIS) Class II, III Div 1, Groups E, F, G	CD	
Approvals: CE - CSA (XP) Class I, Div 1, Groups A, B, C, D, (DIP) Class II, III Div 1, Groups E, F, G	CE	
Approvals: CR - CSA (DIP) Class II, DIV 1 Groups E, F, G	CR	
Approvals: IX - Designed for unclassified area, non-EX environment	IX	
Approvals: FC - FM (IS) Class I, II, III, Div 1, Groups A, B, C, D, E, F, G	FC	
Approvals: FD - FM (XP-AIS) Class I, Div 1, Groups A, B, C, D, (DIP-AIS) Class II, III Div 1, Groups E, F, G	FD	
Approvals: FR - FM (DIP) Class II, DIV 1 Groups E, F, G	FR	
Approvals: FE - FM (XP) Class I, Div 1, Groups A, B, C, D, (DIP) Class II, III Div 1, Groups E, F, G	FE	
<b>VERSION</b>		
Version: B - Plastic horn antenna / PP	B	
Version: T - Thread with integrated horn antenna/PEEK	T	
Version: C - Metal jacketed lens antenna with rinsing air connection / PEEK	C	
Version: U - Threaded with encapsulated antenna with second line defense for XP units	U	
<b>MOUNTING</b>		
Mounting: XX - No Mounting	XX	
Mounting: XC - Mounting strap, length: 6.7 inches (170mm) / 316L	XC	
Mounting: XD - Mounting strap, length: 11.8 inches (300 mm) / 316L	XD	
Mounting: AU - Adapter flange 3" 150lb FF, ASME / PP-GF30	AU	
Mounting: AL - Adapter flange 4" 150lb FF, ASME / PP-GF30	AL	
Mounting: AO - Adapter flange 8" 150lb FF, ASME / PP-GF30	AO	
Mounting: AM - Adapter flange 6" 150lb FF, ASME / PP-GF30	AM	
Mounting: TD - Thread 1½" NPT PN20, ASME B1.20.1 / 316L	TD	
Mounting: FD - Flange 3" 150lb FF, ASME / 316 / 316L	FD	
Mounting: FE - Flange 4" 150lb FF, ASME / 316 / 316L	FE	
Mounting: FF - Flange 6" 150lb FF, ASME / 316 / 316L	FF	
Mounting: SD - Swiveling holder with flange 4" 150lb / 316 / 316L	SD	
Mounting: SE - Swiveling holder with flange 6" 150lb / 316 / 316L	SE	

Description	CODE	Part No.
Mounting: SF - Swiveling holder with flange 8" 150lb / 316 / 316L	SF	
<b>SEAL</b>		
Seal: C - No Seal - PP / Process Temperature: -40°F to +176°F (80°C)	C	
Seal: D - FKM (SHS FPM 70C3 GLT) and PP / Process Temperature: -40°F to +176°F (80°C)	D	
Seal: E - EPDM (COG AP310) and PP / Process Temperature: -40°F to +176°F (80°C)	E	
Seal: F - EPDM (COG AP302) and PEEK (suitable for foodstuffs / pharmaceuticals) / Process Temperature: -40°F to 266°F (130°C)	F	
Seal: A - FKM (SHS FPM 70C3 GLT) and PEEK / Process Temperature: -40°F to +266°F (130°C)	A	
Seal: B - FKM (SHS FPM 70C3 GLT) and PEEK / Process Temperature: -40°F to +392°F (200°C)	B	
<b>OUTPUT</b>		
Output: H - Two wire 4-20mA / HART®; 12-35V DC	H	
Output: U - Four-wire Modbus (Requires Dual Chamber Housing); 8-30V DC	U	
Output: B - Four-wire 4-20mA / HART®; 90-253 VAC; 50/60 Hz (Requires Dual Chamber Housing)	B	
Output: I - Four-wire 4-20mA / HART®; 9.6-48V DC; 20-42V AC (Requires Dual Chamber Housing)	I	
Output: P - Two-wire Profibus PA	P	
<b>HOUSING</b>		
Housing: A - Aluminium single chamber / IP66/IP68 (0.2bar)	A	
Housing: K - Plastic single chamber / IP66/IP67	K	
Housing: 8 - Stainless steel single chamber (electropolished) / IP66/IP68 (0.2 bar)	8	
Housing: R - Plastic double chamber / IP66/IP67	R	
Housing: V - Stainless steel single chamber (precision casting) / IP66/IP68 (0.2 bar)	V	
Housing: W - Stainless steel double chamber / IP66/IP67	W	
Housing: D - Aluminium double chamber / IP66/IP67	D	
<b>CONNECTION</b>		
Cable Entry: N - Two ½" NPT / blind plug in one opening	N	
Cable Entry: Q - Two ½" NPT / without plug in either opening	Q	
<b>DISPLAY</b>		
Display: X - Without inspection window or BinDisc	X	
Display: A - Bindisc top mounted with display window	A	
Display: F - Top mounted without BinDisc with inspection window	F	
Display: B - Side mounted BinDisc with window	B	
<b>MOUNTING PLATES</b>		
Self-aligning carbon steel flange with 1.5" Nylon ball and socket flange provides vertical connection for tanks with a radius dome or angled roof top, provides easy aiming flexibility. Based on a 7" bolt pattern.		416-0720
0° mounting plate with 4" ANSI flange finished in a gray powder-coat, includes gasket and bolts.		730-0747
10° mounting plate with 4" ANSI flange finished in a gray powder-coat, includes gasket and bolts.		730-0756
30° mounting plate with 4" ANSI flange finished in a gray powder-coat, includes gasket and bolts.		730-0748
45° mounting plate with 4" ANSI flange finished in a gray powder-coat, includes gasket and bolts.		730-0776
15" spoolpiece, 4" NPT flange each end		730-0785
<b>ACCESSORIES</b>		
Data Cable - ft. of Allen-Bradley blue hose RS-485 data cable, 20 AWG shielded twin axial, twisted pair, low capacitance, Belden #9463 or equivalent		398-0090

Description	CODE	Part No.
BinDisc stand-alone interface enables push-button sensor setup and configuration. The BinDisc can be integrated into the sensor housing and is installed and visible under the housing cover for easy viewing. BinDisc simplifies setup and provides continuous, at-a-glance, operational status of the sensor. This handy interface aids in on-site system diagnosis.		771-0053
<b>CONSOLE</b>		
C-100-R - Control console for 1 to 128 bins, wall mount console with LCD display, NEMA 4X enclosure, and 24 VDC power supply. Measurement formats can be displayed as headroom percentage, headroom height, headroom weight, product percentage, product height, and product weight. Vessel configuration and user settings are stored in non-volatile memory and will be retained during a power failure. The C-100-R has one 4-20 mA output and remote start contact to provide a traditional interface to a PLC/DCS system from 1 radar sensor. Configuration and user settings are stored in non-volatile memory and will be retained during a power failure.		730-5177

Mark X if none											
						X				X	X
Sample											
NCR-84.	IX	F	GP	I	H	X	A	N	F	X	X



### Display

X: X - No Bindisc - No Window (1, 2, 3, 4, 5, 6, 7, 8)  
A: A - Bindisc Top Mounted with Window (1, 2, 3, 4, 5, 6, 7, 8)  
F: F - No Bindisc - With Window (1, 2, 3, 4, 5, 6, 7, 8)

### Connection

N: N - Two 1/2" NPT / blind plug in one opening (1, 2, 3, 4, 5, 6, 7, 8)  
Q: Q - Two 1/2" NPT / without plug in either opening (1, 2, 3, 4, 5, 6, 7, 8)

### Housing

A: A - Aluminium single chamber / IP66/IP68 (0.2bar) (1, 2, 3, 4, 5, 6, 7, 8)  
K: K - Plastic single chamber / IP66/IP67 (1)

### Output

H: H - Two wire 4-20mA / HART®; 12-35V DC (1, 2, 3, 4, 5, 6, 7, 8)

### Seal

C: C - No Seal - PP / Process Temperature: -40°F to +176°F (80°C) (1)  
D: D - FKM (SHS FPM 70C3 GLT) and PP / Process Temperature: -40°F to +176°F (80°C) (1, 2)  
E: E - EPDM (COG AP310) and PP / Process Temperature: -40°F to +176°F (80°C) (1, 2)  
A: A - FKM (SHS FPM 70C3 GLT) and PEEK / Process Temperature: -40°F to +266°F (130°C) (3, 4)  
B: B - FKM (SHS FPM 70C3 GLT) and PEEK / Process Temperature: -40°F to +392°F (200°C) (3, 4)  
I: I - PTFE / PTFE / Process Temperature: -40°F to +266°F (130°C) (5, 6, 7, 8)  
J: J - PTFE / PTFE / Process Temperature: -40°F to +392°F (200°C) (5, 6, 7, 8)

### Mounting

XC: XC - Mounting strap, length: 6.7 inches (170mm) / 316L (1, 2)  
XD: XD - Mounting strap, length: 11.8 inches (300 mm) / 316L (1, 2)  
AU: AU - Adapter flange 3" 150lb FF, ASME / PP-GF30 (1, 2)  
AL: AL - Adapter flange 4" 150lb FF, ASME / PP-GF30 (1, 2)  
AM: AM - Adapter flange 6" 150lb FF, ASME / PP-GF30 (1, 2)  
AO: AO - Adapter flange 8" 150lb FF, ASME / PP-GF30 (1, 2)  
XX: XX - No Mounting (1, 2)  
TB: TB - Thread 3/4" NPT PN20, ASME B1.20.1 / 316L (3, 4)  
TD: TD - Thread 1-1/2" NPT PN20, ASME B1.20.1 / 316L (3, 4)  
GI: GI - Flange 2" 150lb RF, ASME B16.5 / 316/316L (5, 6)  
GJ: GJ - Flange 2" 300lb RF, ASME B16.5 / 316/316L (5, 6)  
HG: HG - Flange 2" 600lb RF, ASME B16.5 / 316/316L (5, 6)  
HM: HM - Flange 2-1/2" 150lb RF, ASME B16.5 / 316/316L (5, 6)  
GK: GK - Flange 2-1/2" 300lb RF, ASME B16.5 / 316/316L (5, 6)

GM: GM - Flange 3" 150lb RF, ASME B16.5 / 316/316L (5, 6)  
GN: GN - Flange 3" 300lb RF, ASME B16.5 / 316/316L (5, 6)  
HQ: HQ - Flange 3" 600lb RF, ASME B16.5 / 316/316L (5, 6)  
GP: GP - Flange 4" 150lb RF, ASME B16.5 / 316/316L (5, 6)  
GQ: GQ - Flange 4" 300lb RF, ASME B16.5 / 316/316L (5, 6)  
GR: GR - Flange 4" 600lb RF, ASME B16.5 / 316/316L (5, 6)  
GS: GS - Flange 5" 150lb RF, ASME B16.5 / 316/316L (5, 6)  
GT: GT - Flange 5" 300lb RF, ASME B16.5 / 316/316L (5, 6)  
GU: GU - Flange 6" 150lb RF, ASME B16.5 / 316/316L (5, 6)  
GV: GV - Flange 6" 300lb RF, ASME B16.5 / 316/316L (5, 6)  
GW: GW - Flange 8" 150lb RF, ASME B16.5 / 316/316L (5, 6)  
GY: GY - Flange 8" 300lb RF, ASME B16.5 / 316/316L (5, 6)  
CA: CA - Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L (7, 8)  
CB: CB - Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L (7, 8)

### Version

B: B - Plastic horn antenna (1)  
D: D - Plastic horn for XP units (2)  
T: T - Threaded with integrated horn antenna (3)  
U: U - Flanged with encapsulated antenna for XP units (4)  
F: F - Flanged with encapsulated antenna (5)  
G: G - Flanged with encapsulated antenna for XP units (6)  
H: H - Hygienic fitting with encapsulated antenna (7)  
I: I - Hygienic fitting with encapsulated antenna for XP units (8)

### Approvals

CC: CC - CSA (IS) Class I, II, III, Div 1, Groups A, B, C, D, E, F, G (1, 3, 5, 7)  
CE: CE - CSA (XP) Class I, Div 1, Groups A, B, C, D, (DIP) Class II, III Div 1, Groups E, F, G (2, 4, 6, 8)  
CR: CR - CSA (DIP) Class II, Div 1 Groups E, F, G (1, 3, 5, 7)  
IX: IX - Designed for unclassified area, non-EX environment, general purpose FM/CSA/CE (1, 3, 5, 7)  
FE: FE - FM (XP) Class I, Div 1, Groups A, B, C, D, (DIP) Class II, III Div 1, Groups E, F, G (2, 4, 6, 8)

### Power Pac

NCR-84.: NCR-84 Liquid Radar

- 1 - Plastic
- 2 - Plastic XP
- 3 - Threaded
- 4 - Threaded XP
- 5 - Flanged
- 6 - Flanged XP
- 7 - Hygienic
- 8 - Hygienic XP



## NCR-84

The NCR-84 is an 80 GHz radar used for continuous, non-contact level measurement in liquids. It is designed specifically for precise, reliable measurement in challenging conditions specific to liquids such as excessive steam, vapor, condensation, or surface foam. The signal is focused in a very narrow beam angle, allowing for precise aiming to avoid obstructions in the tank such as agitators, mixers, fittings, or heating coils. The NCR-84 is also appropriate for use in tanks with turbulent product surfaces, viscous media, and pastes.

Description	CODE	Part No.
<b>BASE UNIT</b>		
NCR-84 Liquid Radar	NCR-84.	
<b>APPROVALS</b>		
Approvals: CC - CSA (IS) Class I, II, III, Div 1, Groups A, B, C, D, E, F, G	CC	
Approvals: CE - CSA (XP) Class I, Div 1, Groups A, B, C, D, (DIP) Class II, III Div 1, Groups E, F, G	CE	
Approvals: CR - CSA (DIP) Class II, DIV 1 Groups E, F, G	CR	
Approvals: IX - Designed for unclassified area, non-EX environment, general purpose FM/CSA/CE	IX	
Approvals: FE - FM (XP) Class I, Div 1, Groups A, B, C, D, (DIP) Class II, III Div 1, Groups E, F, G	FE	
<b>VERSION</b>		
Version: B - Plastic horn antenna	B	
Version: D - Plastic horn antenna with second line defense for XP units	D	
Version: T - Threaded with integrated horn antenna	T	
Version: U - Threaded with encapsulated antenna with second line defense for XP units	U	
Version: F - Flanged with encapsulated antenna	F	
Version: G - Flanged with encapsulated antenna with second line defense for XP units	G	
Version: H - Hygienic fitting with encapsulated antenna	H	
Version: I - Hygienic fitting with encapsulated antenna with second line defense for XP units	I	
<b>MOUNTING</b>		
Mounting: XD - Mounting strap, length: 11.8 inches (300 mm) / 316L	XD	
Mounting: AU - Adapter flange 3" 150lb FF, ASME / PP-GF30	AU	
Mounting: AL - Adapter flange 4" 150lb FF, ASME / PP-GF30	AL	
Mounting: AM - Adapter flange 6" 150lb FF, ASME / PP-GF30	AM	
Mounting: AO - Adapter flange 8" 150lb FF, ASME / PP-GF30	AO	
Mounting: XX - No Mounting	XX	
Mounting: TB - Thread 3/4" NPT PN20, ASME B1.20.1 / 316L	TB	
Mounting: TD - Thread 1-1/2" NPT PN20, ASME B1.20.1 / 316L	TD	
Mounting: GI - Flange 2" 150lb RF, ASME B16.5 / 316/316L	GI	
Mounting: GJ - Flange 2" 300lb RF, ASME B16.5 / 316/316L	GJ	
Mounting: HG - Flange 2" 600lb RF, ASME B16.5 / 316/316L	HG	
Mounting: HM - Flange 2-1/2" 150lb RF, ASME B16.5 / 316/316L	HM	
Mounting: GK - Flange 2-1/2" 300lb RF, ASME B16.5 / 316/316L	GK	



Description	CODE	Part No.
Mounting: GM - Flange 3" 150lb RF, ASME B16.5 / 316/316L	GM	
Mounting: GN - Flange 3" 300lb RF, ASME B16.5 / 316/316L	GN	
Mounting: HQ - Flange 3" 600lb RF, ASME B16.5 / 316/316L	HQ	
Mounting: GP - Flange 4" 150lb RF, ASME B16.5 / 316/316L	GP	
Mounting: GQ - Flange 4" 300lb RF, ASME B16.5 / 316/316L	GQ	
Mounting: GR - Flange 4" 600lb RF, ASME B16.5 / 316/316L	GR	
Mounting: GS - Flange 5" 150lb RF, ASME B16.5 / 316/316L	GS	
Mounting: GT - Flange 5" 300lb RF, ASME B16.5 / 316/316L	GT	
Mounting: GU - Flange 6" 150lb RF, ASME B16.5 / 316/316L	GU	
Mounting: GV - Flange 6" 300lb RF, ASME B16.5 / 316/316L	GV	
Mounting: GW - Flange 8" 150lb RF, ASME B16.5 / 316/316L	GW	
Mounting: GY - Flange 8" 300lb RF, ASME B16.5 / 316/316L	GY	
Fitting: CA - Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L	CA	
Fitting: CB - Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L	CB	
<b>SEAL</b>		
Seal: C - No Seal - PP / Process Temperature: -40°F to +176°F (80°C)	C	
Seal: D - FKM (SHS FPM 70C3 GLT) and PP / Process Temperature: -40°F to +176°F (80°C)	D	
Seal: E - EPDM (COG AP310) and PP / Process Temperature: -40°F to +176°F (80°C)	E	
Seal: A - FKM (SHS FPM 70C3 GLT) and PEEK / Process Temperature: -40°F to +266°F (130°C)	A	
Seal: B - FKM (SHS FPM 70C3 GLT) and PEEK / Process Temperature: -40°F to +392°F (200°C)	B	
Seal: I - PTFE / PTFE / Process Temperature: -40°F to +266°F (130°C)	I	
Seal: J - PTFE / PTFE / Process Temperature: -40°F to +392°F (200°C)	J	
<b>OUTPUT</b>		
Output: H - Two wire 4-20mA / HART®; 12-35V DC	H	
<b>HOUSING</b>		
Housing: A - Aluminium single chamber / IP66/IP68 (0.2bar)	A	
Housing: K - Plastic single chamber / IP66/IP67	K	
<b>CONNECTION</b>		
Cable Entry: N - Two ½" NPT / blind plug in one opening	N	
Cable Entry: Q - Two ½" NPT / without plug in either opening	Q	
<b>DISPLAY</b>		
Display: X - Without inspection window or BinDisc	X	
Display: A - Bindisc top mounted with display window BinDisc stand alone interface enables push-button sensor setup and configuration. The BinDisc can be integrated into the sensor housing and is installed and visible under the housing cover for easy viewing. BinDisc simplifies setup and provides continuous, at-a-glance, operational status of The sensor. This handy interface aids in on-site system diagnosis.	A	
Display: F - No BinDisc with inspection window	F	
<b>MOUNTING PLATES</b>		
4" Variable flange seal for NCR-80 up to 8°		771-0058
3" Variable flange seal for NCR-80 up to 8°		771-0057
0° mounting plate with 4" ANSI flange finished in a gray powder-coat, includes gasket and bolts.		730-0747
10° mounting plate with 4" ANSI flange finished in a gray powder-coat, includes gasket and bolts.		730-0756

Description	CODE	Part No.
30° mounting plate with 4" ANSI flange finished in a gray powder-coat, includes gasket and bolts.		730-0748
Self-aligning carbon steel flange with 1.5" Nylon ball and socket flange provides vertical connection for tanks with a radius dome or angled roof top, provides easy aiming flexibility. Based on a 7" bolt pattern.		416-0720
GRMP-6 - 0° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0298
GRMP-8 - 0° 1-1/2" NPT Stainless steel mounting plate with half coupling		730-0469
GRMP-11 - 5° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0501
GRMP-12 - 10° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0502
GRMP-18 - 30° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0663
Swivel mount with 1.5" NPT female connector. Can swivel in one direction up to 40°.		SWVL-40
<b>ACCESSORIES</b>		
Tri-clover style, quick disconnect clamp for 2" sanitary fitting		215-0151
Tri-Clover 2" Stainless steel welding ferrule flange		175-0230
Gasket for Tri-clover 2" clamp connection		280-0084
<b>POWER SUPPLY</b>		
PSDC-1 - 24 VDC / 30 VA, NEMA 1 din rail mounted power supply		399-0022
PSDC-4 - 24 VDC / 30 VA, NEMA 4X enclosure mounted power supply		730-0577
PSDC-5 Power Supply 90-264 VAC converted to 24 VDC 1 A		399-0030



Mark X if none								
	XX	X	X	X		A		
Sample								
120.	XX	X	X	X	N	A	H	B

#### Connection

A: 16 ft (5 m) polyurethane pigtail  
 B: 32 ft (10 m) polyurethane pigtail  
 C: 82 ft (25 m) polyurethane pigtail

#### Output

H: Two wire 4-20mA / HART®; 12-35V DC  
 W: Four-wire Modbus; 8-30V DC

#### Mounting

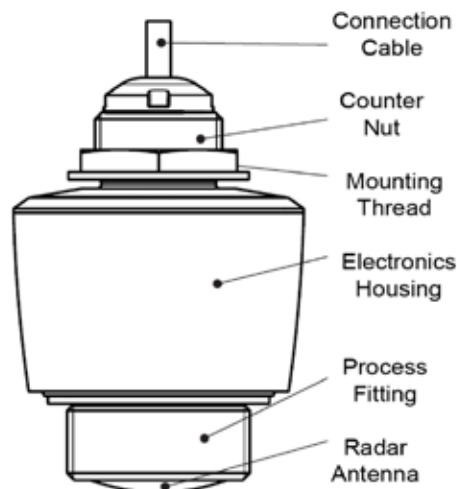
N: 1.5" Threaded NPT  
 G: 1.5" Threaded Straight  
 M: 1.0" Threaded NPT  
 F: 1.0" Threaded Straight

#### Approvals

XX: Unclassified area, non-EX environment,  
 general purpose FM/CSA/CE  
 VH: VH - FM/CSA/ATEX/ICEx Class I, II, III  
 VB: ATEX/ICEx Zone 1, 1/2

#### Version

110: CNCR-110 26 ft (8 M) 4-20 mA (top cable connection)  
 120: CNCR-120 49 ft (15 M) 4-20 mA & Modbus (top cable connection)  
 130: CNCR-130 49 ft (15 M) 4-20 mA & Modbus (side cable connection)  
 190: CNCR-190 98 ft (30 M) 4-20 mA & Modbus (top cable connection)





## CNCR-100

The CNCR-110, 120, 130, and 190 all install using a polyurethane pigtail connection cable available in 16, 32, or 82-foot lengths. These sensors are rated to IP66/IP68 (3 bar) with housings made from durable PVDF material that has excellent chemical, abrasion, flame resistance, and UV stability. The FKM seal provides heat and chemical resistance for long-lasting durability. They are for use unclassified areas, non-EX environments, and have general purpose FM/CSA/CE certifications.

Description	CODE	Part No.
<b>VERSION</b>		
CNCR-110 26 ft (8 M) 4-20 mA (top cable connection)	110	
CNCR-120 49 ft (15 M) 4-20 mA & Modbus (top cable connection)	120	
CNCR-130 49 ft (15 M) 4-20 mA & Modbus (side cable connection)	130	
CNCR-190 98 ft (30 M) 4-20 mA & Modbus (top cable connection)	190	
<b>APPROVALS</b>		
Unclassified area, non-EX environment, general purpose FM/CSA/CE	XX	
ATEX/IEC/c-FM-us/c-CSA-us; gas, intrinsic safety, Zone 0, 0/1, 1, 2 (Class I Division 1, 2) + Dust, intrinsic safety, Zone 20, 20/21, 21, 22 (Class II, III Division 1, 2) (CNCR 120, 130, 190)	VH	
ATEX/IEC; gas, encapsulation, Zone 1, 1/2, 2 + Dust, protection through housing, Zone 20, 21/22, 21, 22 (CNCR 120, 130, 190)	VB	
<b>MOUNTING</b>		
1.5" Threaded NPT	N	
1.5" Threaded straight	G	
1.0" Threaded NPT (CNCR-190)	M	
1.0" Threaded straight (CNCR-190)	F	
<b>OUTPUT</b>		
Two wire 4-20mA / HART®; 12-35V DC	H	
Four-wire Modbus; 8-30V DC	W	
<b>CONNECTION</b>		
16 ft (5 m) polyurethane pigtail	A	
32 ft (10 m) polyurethane pigtail	B	
82 ft (25 m) polyurethane pigtail	C	
<b>MOUNTING BRACKETS</b>		
1.0" opening, 3.25" wall mount bracket made of stainless steel, includes three self tapping screws (CNCR-190)		730-0787
1.5" opening, 3.25" wall mount bracket made of stainless steel, includes three self tapping screws		730-0788
1.0" opening, 8.0" wall mount bracket made of stainless steel, includes three self tapping screws (CNCR-190)		730-0789
1.5" opening, 8.0" wall mount bracket made of stainless steel, includes three self tapping screws		730-0790
1.5" opening ceiling mounted bracket made of stainless steel, include three self tapping screws		730-0791
1.5" NPT plastic nut		140-1004
<b>MOUNTING PLATES</b>		
CNCR Mount plate 1.0"		771-0065

Description	CODE	Part No.
GRMP-6: 0° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0298
GRMP-10: 0° 1" NPT Powder coated carbon steel mounting plate with half coupling		730-0488
GRMP-11: 5° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0501
GRMP-12: 10° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0502
GRMP-18: 30° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0633
Swivel mount with 1.5" NPT female connector. Can swivel in one direction up to 40°.		SWVL-40
<b>POWER SUPPLY</b>		
PSDC-1: 24 VDC / 30 VA, NEMA 1 din rail mounted power supply		399-0022
PSDC-1: 24 VDC / 30 VA, NEMA 1 din rail mounted power supply		730-0577
PSDC-5: Power supply 90-264 VAC converted to 24 VDC 1 A		399-0030

Mark X if none									
	XX	X	X	X		Q	H		
Sample									
210.	XX	X	X	X	N	Q	H	B	

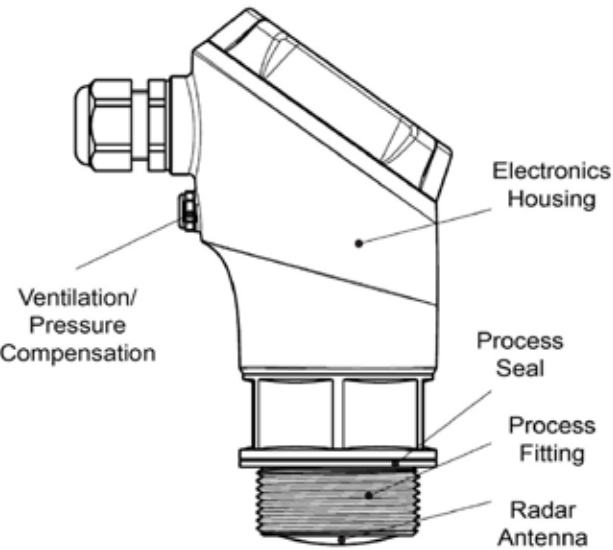
**Connection**  
Q: Cable Entry: One 1/2" NPT without plug

**Output**  
H: Two wire 4-20mA / HART®; 12-35V DC

**Mounting**  
N: 1.5" Threaded NPT  
G: 1.5" Threaded Straight

**Approvals**  
XX: Unclassified area, non-EX environment, general purpose FM/CSA/CE

**Version**  
210: CNCR-210 26 ft (8 M) 4-20 mA  
220: CNCR-220 49 ft (15 M) 4-20 mA  
230: CNCR-230 49 ft (15 M) 4-20 mA with Display



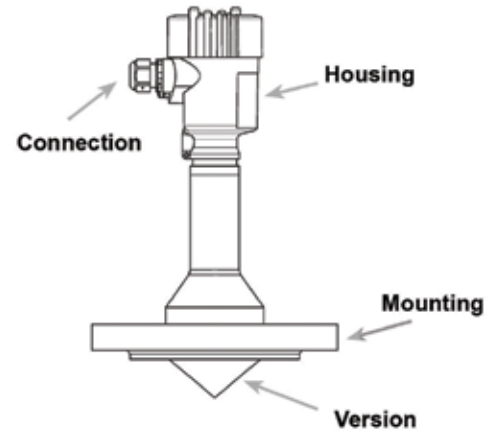


### CNCR-200

The 210, 220, and 230 all mount using a 1.5" threaded NPT or 1.5" threaded straight NPT connection. The enclosures are rated IP66/IP67, Type 4X to protect them from dust and water damage. They are ideal sensors for non-contact level measurement for basic liquid level applications. They are particularly suitable for use in water treatment, storage tanks with acids, lyes and additives in all industrial areas, or for measuring levels in plastic tanks or IBC containers through the tank walls.

Description	CODE	Part No.
<b>VERSION</b>		
CNCR-210 26 ft (8 M) 4-20 mA	210	
CNCR-220 49 ft (15 M) 4-20 mA	220	
CNCR-230 49 ft (15 M) 4-20 mA with Display	230	
<b>APPROVALS</b>		
Unclassified area, non-EX environment, general purpose FM/CSA/CE	XX	
<b>MOUNTING</b>		
1.5" Threaded NPT	N	
1.5" Threaded Straight	G	
<b>OUTPUT</b>		
Two wire 4-20 mA / HART®; 12-35V DC	H	
<b>CONNECTION</b>		
Cable Entry: One 1/2" NPT without plug	Q	
<b>MOUNTING BRACKETS</b>		
1.0" opening, 3.25" wall mount bracket made of stainless steel, includes three self tapping screws		730-0787
1.5" opening, 3.25" wall mount bracket made of stainless steel, includes three self tapping screws		730-0788
1.0" opening, 8.0" wall mount bracket made of stainless steel, includes three self tapping screws		730-0789
1.5" opening, 8.0" wall mount bracket made of stainless steel, includes three self tapping screws		730-0790
1.5" opening ceiling mounted bracket made of stainless steel, include three self tapping screws		730-0791
1.5" NPT plastic nut		140-1004
<b>MOUNTING PLATES</b>		
GRMP-6: 0° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0298
GRMP-11: 5° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0501
GRMP-12: 10° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0502
GRMP-18: 30° 1.5" NPT Powder coated carbon steel mounting plate with half coupling		730-0633
Swivel mount with 1.5" NPT female connector. Can swivel in one direction up to 40°.		SWVL-40
<b>POWER SUPPLY</b>		
PSDC-1: 24 VDC / 30 VA, NEMA 1 din rail mounted power supply		399-0022
PSDC-1: 24 VDC / 30 VA, NEMA 1 din rail mounted power supply		730-0577
PSDC-5: Power supply 90-264 VAC converted to 24 VDC 1 A		399-0030

Mark X if none									
								X	X
Sample									
NCR-30.	XX	N	AI	H	H	N	A	X	X



#### Display

X: X - No Bindisc - No Window  
 A: A - Bindisc Top Mounted with Window  
 F: F - No Bindisc - With Window Top  
 B: B - Bindisc Side Mounted with Window

#### Connection

N: N - Two ½" NPT / blind plug  
 Q: Q - Two ½" NPT / without plug

#### Housing

H: H - Aluminium single chamber  
 S: S - Aluminium double chamber  
 V: V - Stainless steel single chamber (Cast)  
 8: 8 - Stainless steel single chamber  
 W: W - Stainless steel double chamber

#### Output

H: H - Two wire 4-20mA  
 7: 7 - Four-wire Modbus  
 I: I - Four-wire 4-20mA  
 B: B - Four-wire 4-20mA

#### Mounting

CA: CA - 2" Hygenic Clamp  
 CB: CB - 3" Hygenic Clamp  
 AE: AE - 2" 150 lb RF  
 AI: AI - 3" 150 lb RF  
 AK: AK - 4" 150 lb RF  
 AM: AM - 6" 150 lb RF  
 AN: AN - 8" 150 lb RF

#### Version

N: N - Hygenic

#### Approvals

XX: XX - Designed for unclassified area  
 UX: UX - FM (NI) Class I  
 UF: UF - FM (IS) Class I, II, III  
 UG: UG - FM (XP-IS) Class I, II, III  
 UD: UD - FM (XP) Class I  
 KX: KX - CSA (NI) Class I  
 KF: KF - CSA (IS) Class I, II, III  
 KG: KG - CSA (XP-IS) Class I, II, II

#### Power Pac

NCR-30.: 26 GHz Radar





## NCR-30

The BinMaster NCR-30 non-contact radar level sensor continuously measures liquids contained in vessels up to 114 feet tall. The NCR-30 is for use in aggressive materials such as asphalt or syrups. It is also appropriate for sanitary environments such as human or animal food processing or pharmaceuticals. NCR-30 is compatible with the BinView® web application and BinInventory® software for simple access to inventory data from a phone, tablet, or desktop PC.

Description	CODE	Part No.
<b>BASE UNIT</b>		
26 GHz radar level sensor	NCR-30.	
<b>APPROVALS</b>		
Approvals: XX - Designed for unclassified area, non-EX environment	XX	
Approvals: UX - FM (NI) Class I, DIV 2 Groups A, B, C, D	UX	
Approvals: UF - FM (IS) Class I, II, III, Div 1, Groups A, B, C, D, E, F	UF	
Approvals: UG - FM (XP-IS) Class I, II, III Div 1, Groups A, B, C, D, E, F, G	UG	
Approvals: UD - FM (XP) Class I, Div 1, Groups A, B, C, D, (DIP) Class II, III Div 1, Groups E, F, G	UD	
Approvals: KX - CSA (NI) Class I, DIV 2 Groups A, B, C, D	KX	
Approvals: KF - CSA (IS) Class I, II, III, Div 1, Groups A, B, C, D, E, F	KF	
Approvals: KG - CSA (XP-IS) Class I, II, III Div 1, Groups A, B, C, D, E, F, G	KG	
<b>VERSION</b>		
Version: H - Hygienically encapsulated horn antenna / PTFE / -40...+200°C	N	
<b>MOUNTING</b>		
Fitting: CA - Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L	CA	
Fitting: CB - Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L	CB	
Mounting: AE - Flange 2" 150lb RF, ASME B16.5 / 316/316L	AE	
Mounting: AI - Flange 3" 150lb RF, ASME B16.5 / 316/316L	AI	
Mounting: AK - Flange 4" 150lb RF, ASME B16.5 / 316/316L	AK	
Mounting: AM - Flange 6" 150lb RF, ASME B16.5 / 316/316L	AM	
Mounting: AN - Flange 8" 150lb RF, ASME B16.5 / 316/316L	AN	
<b>OUTPUT</b>		
Output: H - Two wire 4-20mA / HART®; 12-35V DC	H	
Output: 7 - Four-wire Modbus (Requires Dual Chamber Housing); 8-30V DC	7	
Output: I - Four-wire 4-20mA / HART®; 9.6-48V DC; 20-42V AC (Requires Dual Chamber Housing)	I	
Output: B - Four-wire 4-20mA / HART®; 9.6-48V DC; 20-42V AC (Requires Dual Chamber Housing)	B	
<b>HOUSING</b>		
Housing: H - Aluminium single chamber / IP66/IP68 (0.2bar)	H	
Housing: S - Aluminium double chamber / IP66/IP67	S	
Housing: V - Stainless steel single chamber (precision casting) / IP66/IP68 (0.2 bar)	V	
Housing: 8 - Stainless steel single chamber (electropolished) / IP66/IP68 (0.2 bar)	8	

Description	CODE	Part No.
Housing: W - Stainless steel double chamber / IP66/IP67	W	
<b>CONNECTION</b>		
Cable Entry: N - Two ½" NPT / blind plug in one opening	N	
Cable Entry: Q - Two ½" NPT / without plug in either opening	Q	
<b>DISPLAY</b>		
Display: X - Without inspection window or BinDisc	X	
Display: A - Bindisc top mounted with display window	A	
Display: F - Top mounted without BinDisc with inspection window	F	
Display: B - Side mounted BinDisc with window	B	
<b>ACCESSORIES</b>		
BinDisc stand-alone interface enables push-button sensor setup and configuration. The BinDisc can be integrated into the sensor housing and is installed and visible under the housing cover for easy viewing. BinDisc simplifies setup and provides continuous, at-a-glance, operational status of the sensor. This handy interface aids in on-site system diagnosis.		771-0053

Mark X if none										
									X	X
Sample										
NCR-25.	XX	B	ND	2	H	A	N	A	X	X

**Display**  
X: X - No BinDisc, no window  
A: A - Bindisc top mounted with window  
F: F - No BinDisc with window  
B: B - Side mounted BinDisc with window

**Connection**  
N: N - Two ½" NPT / blind plug  
Q: Q - Two ½" NPT / without plug

**Housing**  
A: A - Aluminium single chamber  
K: K - Plastic single chamber  
8: 8 - Stainless steel single chamber (electropolished)  
V: V - Stainless steel single chamber (precision casting)  
R: R - Plastic double chamber  
D: D - Aluminium double chamber  
W: W - Stainless steel double chamber

**Output**  
H: H - Two wire 4-20mA / HART®, 12-35V DC  
7: 7 - Four-wire Modbus; 8-30V DC\*  
I: I - Four-wire 4-20mA / HART®; 9.6-48 VDC; 20-42 VAC\*  
B: B - Four-wire 4-20mA / HART®; 90-253 VAC; 50/60Hz\*  
\*Requires dual chamber housing

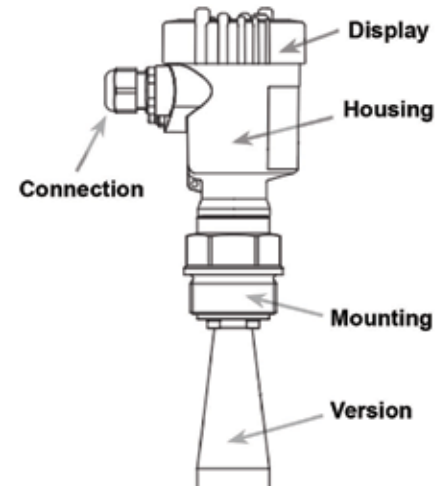
**Seal**  
2: 2 - FKM (SHS FPM 70C3 GLT) and PTFE / -40...+266°F  
3: 3 - FFKM (Kalrez 6375) and PTFE / -20...+266°C  
E: E - FFKM (Kalrez 6230) and PEEK / 5...+482°C

**Mounting**  
ND: ND - 1.5" NPT PN40  
NC: NC - 2.0" NPT PN100  
NX: NX - 3.0" NPT 3,000lb  
AE: AE - Flange 2" 150lb RF  
AI: AI - Flange 3" 150lb RF  
AK: AK - Flange 4" 150lb RF

**Version**  
B: B - 1.59" horn antenna, 49 ft. max. distance  
C: C - 1.89" horn antenna, 65 ft. max. distance  
D: D - 2.95" horn antenna, 114 ft. max. distance

**Approvals**  
XX: XX - Unclassified Area  
UX: UX - FM (NI) Class I  
UF: UF - FM (IS) Class I, II, III  
UG: UG - FM (XP-IS) Class I, II, III  
UD: UD - FM (XP) Class I  
KX: KX - CSA (NI) Class I  
KF: KF - CSA (IS) Class I, II, III  
KG: KG - CSA (XP-IS) Class I, II, III

**Base Unit**  
NCR-25.: 26 GHz Radar



The diagram illustrates the physical components of the NCR-25 radar unit. It shows a vertical assembly with a 'Display' at the top, followed by the 'Housing'. A 'Connection' port is located on the side. Below the housing is the 'Mounting' bracket, and at the bottom is the 'Version' antenna horn. Arrows point from the labels to their respective parts in the diagram.



## NCR-25

The BinMaster NCR-25 non-contact radar level sensor continuously measures liquids contained in vessels up to 114 feet tall. The NCR-25 is best suited for water, fuels, oils, and other freely-flowing, clean liquids. It is compatible with the BinView® web application and Binventory® software for simple access to inventory data from a phone, tablet, or desktop PC.

Description	CODE	Part No.
<b>BASE UNIT</b>		
26 GHz radar level sensor for liquids	NCR-25.	
<b>APPROVALS</b>		
Approvals: XX - Unclassified area, non-EX environment, general purpose FM/CSA/CE	XX	
Approvals: UX - FM (NI) Class I, DIV 2 Groups A, B, C, D	UX	
Approvals: UF - FM (IS) Class I, II, III, Div 1, Groups A, B, C, D, E, F	UF	
Approvals: UG - FM (XP-IS) Class I, II, III Div 1, Groups A, B, C, D, E, F, G	UG	
Approvals: UD - FM (XP) Class I, Div 1, Groups A, B, C, D, (DIP) Class II, III Div 1, Groups E, F, G	UD	
Approvals: KX - CSA (NI) Class I, DIV 2 Groups A, B, C, D	KX	
Approvals: KF - CSA (IS) Class I, II, III, Div 1, Groups A, B, C, D, E, F	KF	
Approvals: KG - CSA (XP-IS) Class I, II, III Div 1, Groups A, B, C, D, E, F, G	KG	
<b>VERSION</b>		
Version: B - 316L horn antenna 1.59" - 49 ft. max. measurement, 20° beam angle	B	
Version: C - 316L horn antenna 1.89" - 65 ft. max. measurement, 15° beam angle	C	
Version: D - 316L horn antenna 2.95" - 114 ft. max. measurement, 10° beam angle	D	
<b>MOUNTING</b>		
Mounting: ND - 1.5" NPT PN40	ND	
Mounting: NC - 2.0" NPT PN100	NC	
Mounting: NX - 3.0" NPT 3,000lb	NX	
Mounting: AE - Flange 2" 150lb RF, ASME B16.5 / 316/316L	AE	
Mounting: AI - Flange 3" 150lb RF, ASME B16.5 / 316/316L	AI	
Mounting: AK - Flange 4" 150lb RF, ASME B16.5 / 316/316L	AK	
<b>SEAL</b>		
Seal: 2 - FKM (SHS FPM 70C3 GLT) and PTFE / -40...+266°F	2	
Seal: 3 - FFKM (Kalrez 6375) and PTFE / -20...+266°C	3	
Seal: E - FFKM (Kalrez 6230) and PEEK / 5...+482°C	E	
<b>OUTPUT</b>		
Output: H - Two wire 4-20mA / HART®; 12-35V DC	H	
Output: 7 - Four-wire Modbus (Requires Dual Chamber Housing); 8-30V DC	7	
Output: I - Four-wire 4-20mA / HART®; 9.6-48 VDC; 20-42 VAC (Requires Dual Chamber Housing)	I	
Output: B - Four-wire 4-20mA / HART®; 90-253 VAC; 50/60Hz (Requires Dual Chamber Housing)	B	

Description	CODE	Part No.
<b>HOUSING</b>		
Housing: A - Aluminium single chamber / IP66/IP68 (0.2bar)	A	
Housing: K - Plastic single chamber / IP66/IP67	K	
Housing: 8 - Stainless steel single chamber (electropolished) / IP66/IP68 (0.2 bar)	8	
Housing: V - Stainless steel single chamber (precision casting) / IP66/IP68 (0.2 bar)	V	
Housing: R - Plastic double chamber / IP66/IP67	R	
Housing: D - Aluminium double chamber / IP66/IP67	D	
Housing: W - Stainless steel double chamber / IP66/IP67	W	
<b>CONNECTION</b>		
Cable Entry: N - Two ½" NPT / blind plug in one opening	N	
Cable Entry: Q - Two ½" NPT / without plug in either opening	Q	
<b>DISPLAY</b>		
X - Without inspection window or BinDisc	X	
Display: A - Bindisc top mounted with display window	A	
Display: F - No BinDisc with inspection window	F	
Display: B - Side mounted BinDisc with window	B	
<b>MOUNTING PLATES</b>		
Self-aligning carbon steel flange with 1.5" Nylon ball and socket flange provides vertical connection for tanks with a radius dome or angled roof top, provides easy aiming flexibility. Based on a 7" bolt pattern.		416-0720
SSMP-1 - Self-aligning carbon steel 3" ball and socket flange provides vertical connection for tanks with a radius dome or angled roof top, provides easy aiming flexibility.		416-0367
BinDisc stand-alone interface enables push-button sensor setup and configuration. The BinDisc can be integrated into the sensor housing and is installed and visible under the housing cover for easy viewing. BinDisc simplifies setup and provides continuous, at-a-glance, operational status of the sensor. This handy interface aids in on-site system diagnosis.		771-0053