



## CCA-Xci

- pressure transmitter for process industry
- nominal pressure: from 0...60 mbar up to 0...20 bar
- output signals: 2-wire: 4...20 mA
- HART® communication
- internal or flush mounted capacitive ceramic sensor
- accuracy 0.1 % span
- turn-down 5:1
- two chamber aluminium die cast case or stainless field housing
- diaphragm Al<sub>2</sub>O<sub>3</sub> 99.9 %
- optional: integrated display and operating module, several process connections

The process pressure transmitter **CCA-Xci** measures the pressure of gases, steam and fluids. The special developed capacitive ceramic sensor for this transmitter has a high overpressure capability and excellent media stability. Several process connections e.g. thread or flange are available. The transmitter is as a standard equipped with HART®-communication, the customer can choose between a two chamber aluminium die cast case or a stainless field housing.

### PREFERRED AREAS OF USE ARE



Oil and gas industry



Chemical and petrochemical industry

### TECHNICAL DATA

Pressure ranges										
Nominal pressure gauge	[bar]	0.06	0.16	0.4	1	2	5	10	20	
Overpressure	[bar]	2	4	6	8	15	25	35	45	
Permissible vacuum	[bar]	-0.2	-0.3	-0.5		-1				
<sup>1</sup> On customer request we adjust the devices by software to the required pressure ranges. Within the turn-down-possibility (starting at 0.02 bar).										
Output signal / Supply										
Standard	2-wire: 4 ... 20 mA with HART® - communication						V <sub>S</sub> = 12 ... 28 V <sub>DC</sub>			
Current consumption	max. 25 mA									
Performance										
Accuracy <sup>2</sup>	nominal pressure < 1 bar:		≤ ± 0.2 % span							
	nominal pressure ≥ 1 bar:		≤ ± 0.1 % span							
	for nominal pressure ranges: from 0.06 bar up to 0.4 bar		≤ ± (0.2 + (TD-1) x 0.02) % span							
	for nominal pressure ranges: from 1 bar up to 20 bar		≤ ± (0.1 + (TD-1) x 0.01) % span							
with turn-down = nominal pressure range / adjusted range										
Permissible load	R <sub>max</sub> ≤ [(V <sub>S</sub> - V <sub>S min</sub> ) / 0.02 A] Ω					load during HART®-communication: R <sub>min</sub> = 250 Ω				
Influence effects	supply: 0.05 % span / 10 V					permissible load: 0.05 % span / kΩ				
Long term stability	≤ ± 0.1 % span / year									
Response time	200 msec – without consideration of electronic damping						measuring rate 5/sec			
Adjustability	electronic damping: 0 ... 100 sec offset 0 ... 80 % span; turn-down of span: max. 5:1 (span min. 0.02 bar)									
<sup>2</sup> accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)										
Thermal errors / Permissible temperatures										
Thermal error	≤ ± (0.02 x turn-down) % span / 10 K in compensated range -20 ... 80 °C									
Permissible temperatures <sup>3</sup>	without display:		medium: -25 ... 125 °C		environment: -40 ... 70 °C		storage: -40 ... 80 °C			
	with display:		medium: -25 ... 125 °C		environment: -20 ... 70 °C		storage: -30 ... 80 °C			
<sup>3</sup> for pressure port of PVDF the minimum permissible temperature is -25...60 °C										
Electrical protection										
Short-circuit protection	permanent									
Reverse polarity protection	no damage, but also no function									
Electromagnetic compatibility	emission and immunity according to EN 61326									



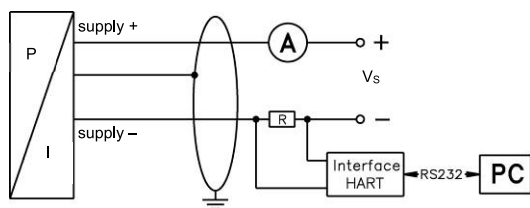
## Pressure transmitters

Mechanical stability	
Vibration	5 g RMS (20 ... 2000 Hz)
Shock	100 g / 11 msec
Materials	
Pressure port Standard	stainless steel 1.4404 (316L)
Optionally for G1 1/2" flush	PVDF
Housing	aluminium die cast, powder-coated or stainless steel 1.4404 (316L)
Cable gland	brass, nickel plated
Viewing glass	laminated safety glass
Seals (media wetted)	FKM EPDM others on request
Diaphragm	ceramics Al <sub>2</sub> O <sub>3</sub> 99.9 %
Media wetted parts	pressure port, seal, diaphragm
Miscellaneous	
Display (optionally)	LC-display, visible range 32.5 x 22.5 mm; 5-digit 7-segment main display, digit height 8 mm, range of indication ±9999; 8-digit 14-segment additional display, digit height 5 mm; 52-segement bargraph; accuracy 0.1% ± 1 digit
Ingress protection	IP 67
Installation position	any
Weight	min. 400 g (depending on housing and mechanical connection)
Operational life	> 100 x 10 <sup>6</sup> pressure cycles
CE-conformity	EMC Directive: 2014/30/EU

HART® is a registered trade mark of HART Communication Foundation; Hastelloy® is a brand name of Haynes International Inc.  
Windows® is a registered trade mark of Microsoft Corporation

## ELECTRICAL CONNECTION

### Wiring diagram



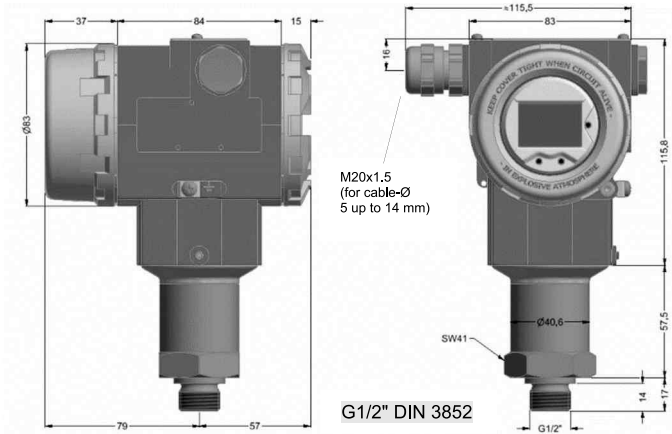
### Pin configuration

Electrical connections	aluminium die cast case: terminal clamps (clamp section: 2.5 mm <sup>2</sup> )	stainless steel field housing: terminal clamps (clamp section: 1.5 mm <sup>2</sup> )
Supply +	IN+	IN+
Supply -	IN-	IN-
Test	Test	-
Shield	⏏	⏏

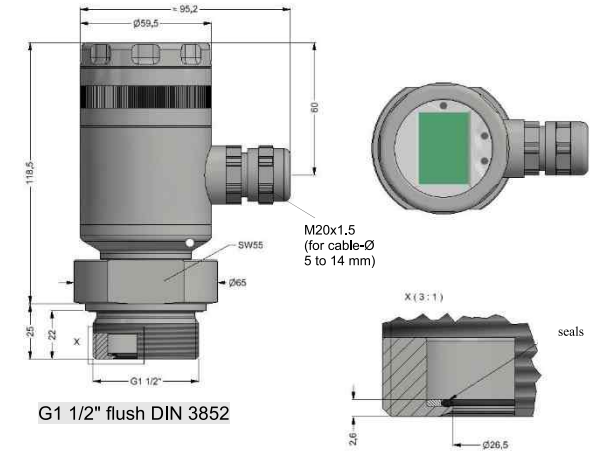


**DIMENSION DRAWINGS**

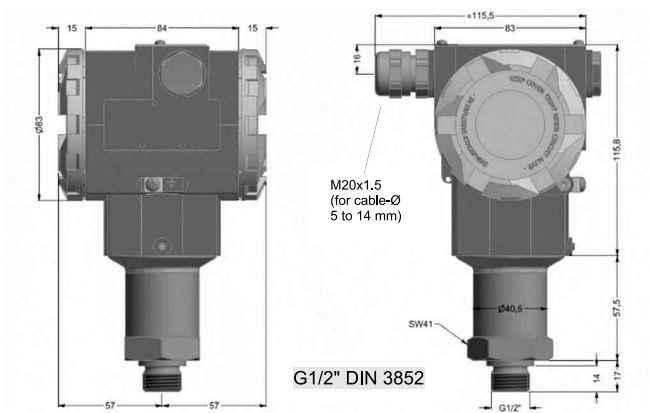
aluminium die cast case with display



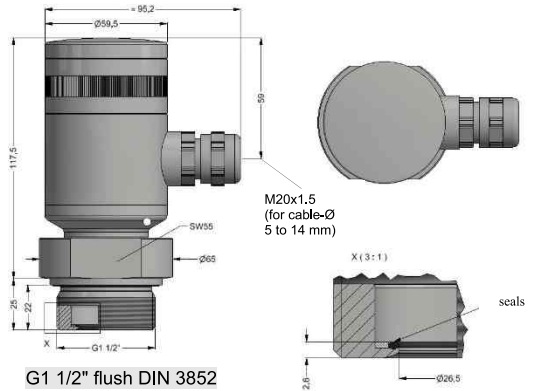
stainless steel field housing with display



aluminium die cast case without display

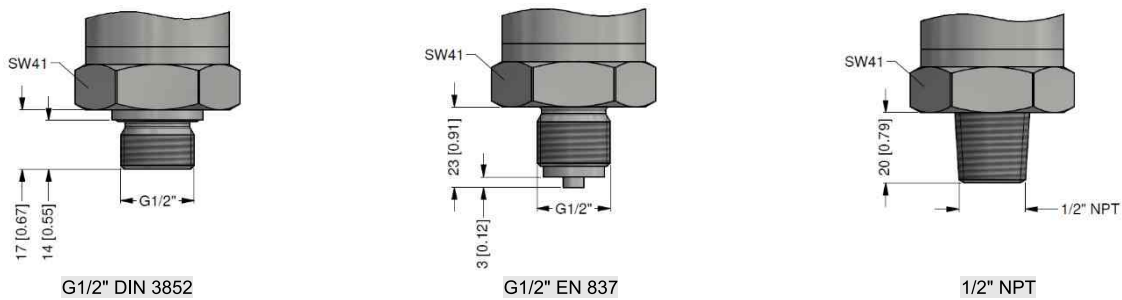


stainless steel field housing without display

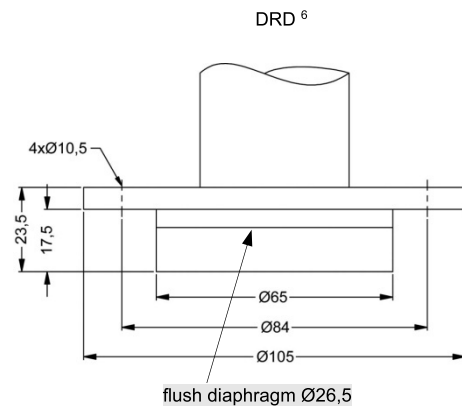
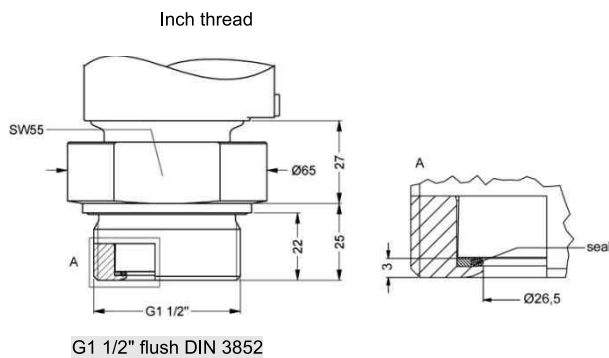


<sup>5</sup> aluminium die cast case is horizontally rotatable as standard

**Standard pressure ports**



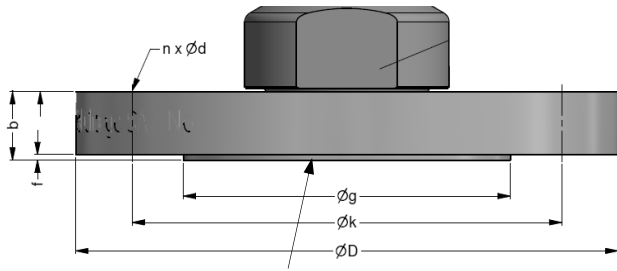
**Process connections**



<sup>6</sup> mounting flange is included in the delivery (already pre-assembled)

# Pressure transmitters

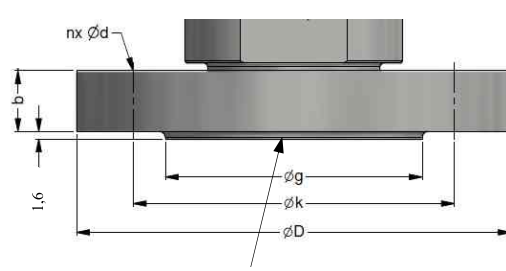
Flange (DIN 2501)



flush diaphragm Ø26,5

DIN 2501 dimensions in mm			
size	DN25	DN50	DN80
D	115	165	200
k	85	125	160
g	68	102	138
b	18	20	20
f	2	3	3
n	4	4	8
d	14	18	18
P <sub>N</sub>	≤ 40 bar	≤ 40 bar	≤ 16 bar

Flange (ANSI)



flush diaphragm Ø26,5

ANSI dimensions in mm		
size	2"/150 lbs	3"/150 lbs
D	152.4	190.5
g	91.9	127
k	120.7	152.4
b	19.1	23.9
n	4	4
d	19.1	19.1
P <sub>N</sub>	≤ 10 bar	≤ 10 bar

## ACCESSORIES

### Accessories for aluminium cast (not a part of delivery)

#### Electrical connection

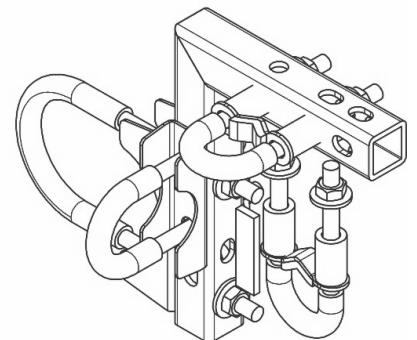
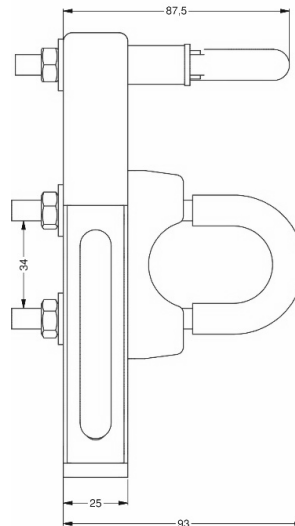
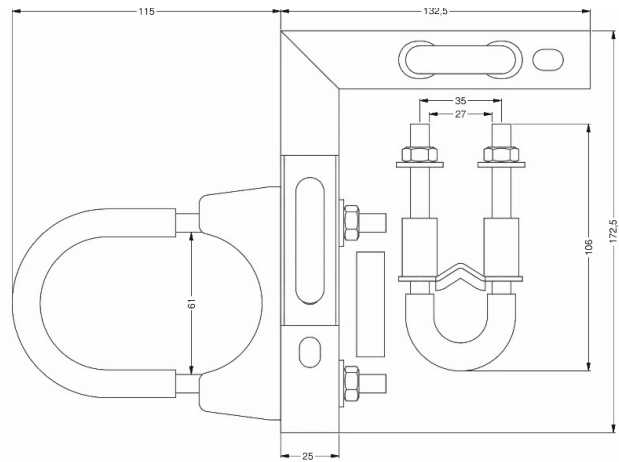
Ordering type	Ordering code
plug thread M20x1.5	1001871
cable gland thread M20x1,5	1001460

#### Universal holder

Weight	cca 1 kg
Material	0308 (E235)
Surface finish	BIS UltraProtect 1000
Ordering code	5020043



### Dimensions (in mm)



# Pressure transmitters

## ORDER CODE

CCA-Xci- [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ]

Pressure												
Gauge												
	5	1	E									
Input [bar]												
0 ... 0,06				0	6	0	0					
0 ... 0,16				1	6	0	0					
0 ... 0,4				4	0	0	0					
0 ... 1				1	0	0	1					
0 ... 2				2	0	0	1					
0 ... 5				5	0	0	1					
0 ... 10				1	0	0	2					
0 ... 20				2	0	0	2					
Customer				9	9	9	9					
Design												
Aluminium housing - with display (IP 67)								A	0			
Aluminium housing - without display (IP 67)								A	N			
Stainless steel field housing - with display (IP 67)								F	V			
Stainless steel field housing - without display (IP 67)								F	N			
Output												
HART® - 4 ... 20 mA / 2-wire										H		
Customer										9		
Accuracy												
0,1 % (P <sub>N</sub> ≥ 1 bar)										1		
0,1 % including Calibration Certificate (P <sub>N</sub> ≥ 1 bar)										P		
0,2 % (P <sub>N</sub> < 1 bar)										B		
0,2 % including Calibration Certificate (P <sub>N</sub> < 1 bar)										Q		
Customer										9		
Electrical connection												
Terminal clamp - Aluminium housing								A	K	0		
Terminal clamp - Stainless Steel field housing								8	8	0		
Customer								9	9	9		
Mechanical connection												
G 1/2" DIN 3852										1	0	0
G 1/2" EN 837										2	0	0
G 1/2" DIN 3852 - open port										H	0	0
1/2" NPT										N	0	0
G 1 1/2" DIN 3852										M	0	0
Dairy pipe DIN 11851 DN 40										M	7	5
Dairy pipe DIN 11851 DN 50										M	7	6
Flange DN 80/PN 16 DIN 2501										F	1	4
Flange DN 25/PN 40 DIN 2501										F	2	0
Flange DN 40/PN 40 DIN 2501										F	2	2
Flange DN 50/PN 40 DIN 2501										F	2	3
DRD Ø 65 mm <sup>1</sup>										D	R	D
Customer										9	9	9
Diaphragm												
Ceramic Al <sub>2</sub> O <sub>3</sub> 96 %											2	
Ceramic Al <sub>2</sub> O <sub>3</sub> 99,9 %											C	
Customer											9	
Seals												
Viton (FKM)											1	
EPDM											3	
Customer											9	
Pressure port												
Stainless steel 1.4404 (316 L)											1	
PVDF (only for mech.connection M00) <sup>2</sup>											B	
Customer											9	
Special version												
Standard												0 0 0
Temperature compensation -20 ... 80 °C												1 1 7
Standard												9 9 9
Mounting bracket												
Universal holder (for pipes ø ≤ 26,5 mm)												5020043

**if setting range shall be different from nominal range please specify in your order**

- 1 - mounting flange is included in the delivery (already pre-assembled)
- 2 - for pressure port in PVDF the operation medium temperature is -25 ... 60 °C

!!! When you make an order it is necessary to fill the questionnaire for transmitters with separators!!!  
 Manufacturer reserves the right to change sensor specifications without further notice.

