

DIGITAL GAUGES

*ASME B 40.1 Grade 2A ($\pm 0.5\%$ of span),
ASME B40.7*

Type 2030 Series	
Digital Sanitary Gauge	53
Type 2089, 2086, 2084 Digital Test Gauge ...	54
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Type DG25 General Purpose	
Digital Gauge	56



**AT LAST, A MULTI-FUNCTIONAL
SANITARY GAUGE FROM THE
EXPERTS IN PRESSURE
MEASUREMENT**

The Ashcroft® sanitary digital gauge saves money, time and space. Now, one digital pressure gauge can replace three instruments . . . a mechanical pressure gauge, a transducer and a switch! Save space, installation costs and the cost of additional instruments and pipe cut-outs.

SPECIFICATION
Type:

Conventional Tri-clamp: 2032 (battery), 2132⁽¹⁾ loop (4-20mA, 12-36 Vdc) 2232⁽¹⁾ line (12-36 Vdc)
In-line Tri-clamp: 2036 (battery), 2136 (12-36 Vdc), 2232 line (12-36 Vdc)

Accuracy: Terminal point

Full Scale: .25% F.S. accuracy

Case Size: 3"

Case Material/Finish: (3") 300 series SS, Electropolished

Case Enclosure Rating: Weatherproof, IP65, NEMA 4
Wetted Parts: 316 SS

Fill Fluid: Glycerine standard, Food Grade Silicone (XCZ), Food Grade Mineral Oil (XMY)

Tri-Clamp Connection: Direct, in-line 1½", 2", Ashcroft remote in-line (XRE),

Seal Surface Finish: 12-20Ra

Connection Location: Lower

Ranges: 15 psi thru 1,000 psi including metric, compound & vac

Process Temp. Limits(2): 14°F / 275°F (-10°C / 135°C) to withstand clean in place (CIP) & steam in place (SIP)

Ambient Temp. Limits(3): 14°F / 140°F (-10°C / 60°C)

Temperature Error: ±.22% per 10°F, (12°F) (Span and Zero shift can be eliminated by rezeroing the gauge at operating temperatures. Temperatures must be within process temperature limits)

Storage Temperature: -4°F / 158°F (-20°C / 70°C)

Overrange Pressure: 2x range of gauge

DISPLAY

Type: LCD

Display Digits: 5 digits

Character Height: .60"

Backlite: Off by default (optional)

Bar Graph: Yes

Features

- 4/20mA Output (optional)
- (1) or (2) SPDT Switches (optional)
- .25% F.S. Terminal Point Accuracy
- IP 65 Weatherproof Case Suitable For Wash Downs
- Large Display
- Easy-to-Use Password Protected Menu With:
 - 5 Backlite Display Options
 - 12 Engineering Units
 - Menu Configure Feature
 - Update Rate
 - Dampen Rate
 - Auto-Off
- Material Traceability Certification to EN 10204: 2004 3.1†

†Excludes 2036 Series

Battery Life: 500 Hrs., Battery Life Indicator – standard

Agency Approvals: CE (excludes XRE variation) Material Traceability Certification to EN 10204: 2004 3.1 standard ASME B40.7

KEYBOARD FUNCTIONS

On/Off: Manually turns unit on & off (auto off options in menu)

Zero/Clear: Zeroes display or clears min/max values when displayed

Min/Max Arrow Key: Stores min & max values, arrow key allows for scrolling thru menu items

Menu: Allows for changes to default settings (see below)

Backlite (optional) Arrow Key: Manually turns backlite on & off (auto off options in menu), arrow key allows for scrolling thru menu items

Enter: Selects items in the menu

MENU MODE

Engineering Units (Units): 10 units of measurement are available; psi, inH₂O with 3 temp. options: 20°C, 60°F, 4°C*, mmHg, ftH₂O, mPa, kPa, kg/cm² & bar
Configuration Mode (Config): Allows for changes to default settings of gauge

Bar Graph (Graph): Allows for adjustment of bar-graph & 4-20mA output

Auto Off (Off): Allows for changes to auto off of gauge: 5 options: 30 min., 10 min., 5 min., 2 min., never

Update Rate (Update): 4 options: 100mili-sec, 1 sec, 500mili-sec, 200mili-sec,

Dampening (Damp): 6 options: none, average 8, 6, 4, 2 times per 100ms

Backlite Lit (optional): 5 options: NEVER, 10 sec,



30, sec, 1 min, 5 min.

Zero Disable: Zero "lockout" feature

Field Recalibration: Zero, span & midscale (password protected)

Calibration: Allows for recalibration of zero & span (includes factory default calibration)

OPTIONS
4-20mA Output

Line Powered: 12-36 Vdc

Switching: (XU1 code) (1) or (XU@ code) (2) SPDT switches, (requires line power), (max. contact 30Vdc, 1 amp, 125Vac, .5 Amp) switches adjustable to 100% of range

Remote Mount Seal: (RE code) standard with 10' shielded cable

NOTES

(1) 3" shielded cable standard.

(2) Rezero gauge often after exposure to elevated temperatures and use.

(3) The 2030 Series Digital Gauge is not suitable for an autoclave.

RANGES

psi	in. Hg (Vacuum)	Comp. (psi)	mmHg (pressure)	in. Hg (pressure)	in. H ₂ O
15	30"	-15/0/15"	800	30	400
30		-15/0/30"	1000	60	800
60		-15/0/60"	2000	100	1000
100		-15/0/100"	3000	160	
160			5000	200	
200			10,000	300	
300				400	
600				600	
800				800	
1000					

mBar	ft. H ₂ O	mPa	kPa	Bar/KSC
1000	60	1	100	1
1500	160	1.6	160	1.6
2000	200	2.5	250	2.5
2500	300	4	400	4
4000	400	6	600	6
5000	600	10	1000	10
8000	1000	16	1600	16
10,000		25	2500	25
15,000		40	4000	40
20,000		60	6000	60

*Note all compound and vacuum ranges require mineral oil fill (XMY option)

HOW TO ORDER

Dial Size: 3" 30

Case Type Number: 2032

Wetted Parts: 316L SS SD

Process Connection: 1.5", 2.0" Tri-Clamp 15L

Variations: RE remote mount in-line design RE

Range: 160 psi 160#

- **Unmatched accuracy of $\pm 0.05\%$ total error band**
 - Temperature corrected from 0/150°F
- **Breakthrough readability and portability**
 - 5 digit LCD display
 - Display height of .66"
- **Rugged portable design**
 - Weatherproof NEMA IV, IP65 case
 - CE, FM, CSA
 - Stainless steel case-to-socket weld for strength
 - Stainless steel cover protects keypad
- **Global/highly configurable**

- Nine options including 12 units of measure, 7 languages and password protected calibration and disable function

- **Safety features include**
 - Pressure range on keypad to reduce accidental overpressure
 - Proof pressure 2 x gauge range
 - Meets ASME B40.7
- **% of reading bar graph**

LOOK FOR THESE AGENCY MARKS ON OUR PRODUCTS



Enter:	Selects items in configuration menu
Configuration Mode:	Allows scrolling through configuration menus to select available options
Engineering Units:	psi, "Hg, "H ₂ O*, ftSW, Bar, mBar, kPa, mPa, mmHg, cmH ₂ O, mmH ₂ O, kg/cm ² (*Allows choice of reference temperatures 4°C, 20°C or 60°F)
Update Rate:	Four Selections: 10x/sec, 5x/sec, 2x/sec, 1x/sec
Auto Off:	Five Options: Never, 2 min., 5 min., 15 min., 30 min.
Dampening:	Five Selections: None, average 2, 4, 6, 8 readings
Language:	Seven Languages: English, Spanish, French, Italian, German, Portuguese, Dutch
Backlite:	Five Selections: On/off, 10 sec., 30 sec., 1 min., 5 min.



Calibrate:	Zero and Span (password protected)
Contrast:	Seven available options
Disable:	Locks in current configuration settings.
Calibration Chart:	10 point individual calibration chart, standard for Type 3089, others optional (XC4)
Accessories:	300 Series SS Protective Cover, Protective Carrying Pouch
Optional Features:	Flange for Panel Mounting = FF , Metal Tag Wired to Case = NH , Paper Tag Wired to Case = NN , Protective Rubber Boot = B1 , Certificate of Conformance = C1 , Calibration Certificate (2084 & 2086 only. Standard w/2089) = C4 , Weatherproof ABS Carrying Case = S7 , Clean for Gaseous Oxygen Service = 6B , Clean for Liquid Oxygen Service = 6D

PRODUCT SPECIFICATIONS

Type:	2089 (0.05% F.S. accuracy), 2086 (0.10% F.S. accuracy), 2084 (0.25% F.S. accuracy)
Accuracy:	0.05%, 0.10% or 0.25% all Full Scale, Terminal Point, Total Error Band (TEB) Including Hysteresis, Linearity, Repeatability and Temperature (0/150°F)
Case Size:	3"
Case Material:	300 Series Stainless Steel
Case Finish:	Electropolished/Tumbled
Case Rating:	Weatherproof, IP65, NEMA 4
Wetted Parts:	316 Stainless Steel
Inlet Fittings:	¼ NPT Male, JIS, DIN, SAE, (others on application)
Connection:	Lower (6 o'clock), top, side
Ranges:	Vac. thru 7000 psi (see engineering units below for other units of measurement)
Units:	psi =# bar=BR kPa=KP mPa=MP inHg=IM inH ₂ O=IW mmH ₂ O=MMW cmH ₂ O=CMW millibar=MB kg/cm ² =KSC
Operating Temp.:	0/150°F (-18/65°C)
Storage Temp.:	-40/180°F (-40/82°C)
Temp. Corrected:	Yes
DISPLAY	
Type:	LCD
Display Digits:	5, 99999 display counts
Character Height:	.66"
Backlite:	Off by default
Bar Graph:	Yes
Battery Life:	<1000 hrs. (3 AAA alkaline batteries)
Agency Approvals:	CE EN 50082-1 (1997), FM, CSA Note: FM/CSA approval not valid on vac. and 15# & vac. ranges

KEYPAD FUNCTIONS

On/Off:	Manually turns unit on and off (auto off options in configuration menu)
Backlite:	Manually turns backlite on and off (auto off options in configuration menu)
Min/Max:	Stores min. and max. values when displayed
Zero/Clear:	Zeros display or clears min. and max. values when displayed

DIGITAL PRECISION TEST GAUGE RANGES:

psi Gauge	psi Compound	psi Absolute	bar/kb/cm ² Gauge	bar Compound	mmH ₂ O Gauge	mPa Gauge	mBar/cmH ₂ O Gauge	kPa Gauge	Temp. Options
vac.	15 & vac.	15	1	-1 to 0	3000	1	250	25	4°C
5	30 & vac.	25	1.6	-1 to 1	5000	1.6	300	40	20°C
10	60 & vac.	50	2.5	-1 to 2	10,000	2.5	400	60	60°F
15	100 & vac.		4	-1 to 30		6	500	160	
30			6	-1 to 30		10	600	250	
60			10			40	1000	400	
100			16				1600	600	
160			25				2000	1000	
200			40				2500		
300			60				4000		
500			160				5000		
600			250				6000		
800			400						
1000			500				10,000		
2000									
2500									
3000									
5000									
700									

TO ORDER THIS DIGITAL TEST GAUGE:

Select:	Example:	30	2089	SD	02L	100#	B1, 6B
1. Dial Size: 3" = 30							
2. Model: 2084, 2086, 2089							
3. Case: 316 SS = SD							
4. Connections: ¼ NPT Male Lower = 02L							
5. Range Value: (see range chart) Unit of Measurement: (see "Units" list)							
6. Options: (see "Optional Features" list)							

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

- **A Multi-Functional Digital Gauge with Optional:**
 - 4/20mA Output
 - (1) or (2) SPDT Switches
- **±.25% of Span Terminal Point Accuracy**
- **IP 65 Weatherproof Case**
- **Three Case Options: Stainless Steel, Fiberglass Reinforced Thermoplastic or Aluminum**
- **Extra Large Display**

- **Intrinsically Safe, Class I, Div. 1 (optional)**
- **Easy-to-Use Menu Options: (all)**
 - Five Backlite Display Options
 - Twelve Engineering Units
 - Menu Configure Feature
 - Update Rate
 - Dampen Rate
 - Auto-Off

LOOK FOR THESE AGENCY MARKS ON OUR PRODUCTS



PRODUCT SPECIFICATIONS

Type:	2074 (battery) 2174 (loop) 4-20mA (12-36Vdc) 2274 (line) (12-36Vdc)
Accuracy:	±.25% of span, terminal point
Case Size:	3", 4½"
Case Material:	3" stainless steel, 4½" fiberglass reinforced thermoplastic or black epoxy coated aluminum
Case Encl. Rating:	Weatherproof, IP65
Wetted Materials:	17-4 stainless steel (sensor), 316 stainless steel (socket)
Socket Size:	¼ or ½ NPT, JIS, DIN, SAE, (½ NPT only with 4½" case, others on application)
Socket Location:	Lower (6 o'clock), top, side
Ranges:	15 psi/Vac. thru 20,000 psi (see engineering units below for other units)
Operating Temp.:	14/140°F (10/60°C)
Temp. Error:	(Zero & Span) .04%/°F Reference temp. 70°F
Storage Temp.:	-4/158° (-20°/70°C)

DISPLAY

Type:	LCD
Display Digits:	Five (5)
Character Height:	3" case: .60", 4½" case: .88"
Backlite:	Optional
Bar Graph:	Yes
Battery Life:	3" <500 hrs., 4½" <2500 hrs.
Agency Approvals:	CE, FM (Intrinsically Safe Class I, Div 1) (optional)

KEYPAD FUNCTIONS

On/Off:	Manually turns unit on and off
Zero/Clear:	Zeros display or clears min. and max. values when displayed
Min/Max ▼ (down) Arrow Key:	Stores min & max values, arrow key allows for scrolling thru menu items
Menu Key:	Provides access to menu options
Backlite ▲ (up) Arrow Key: (Backlite optional)	Manually turns backlite on and off, arrow key allows for five menu options. ▲ (up) arrow key allows for scrolling thru menu options
Enter:	Selects items in the menu

MENU MODE

Engineering Units:	10 units of measurement are available; psi, In. H ₂ O (with three temp. options: 20°C, 60°F, 4°C*), Ft. H ₂ O, mPa, mBar, kPa, kg/cm ² , Bar, inHg and mmHg
Configuration Mode: (Config):	Allows for changes to default settings of gauge including zero disable feature

Bar Graph (Graph):	Allows for adjustment of bargraph and 4-20
Auto Off (Off):	Allows for changes to auto off of gauge, five options: Never, 2 min., 5 min., 15 min., 30 min.
Update Rate:	Four options: 100 ms, 200 ms, 500 ms, 1 sec
Dampening:	Six options: None, average, 2, 4, 6, 8 times per 100ms
Backlite:	Five options: Never, 10 sec., 30 sec., 1 min., 5 min.
Field Recalibration:	Allows for recalibration of zero, mid-scale and span (password protected)

OPTIONS

Description	Code	Case Size
Case Options		
Aluminum Case (black epoxy coated) (Glass reinforced thermoplastic case standard)	AY	4½" only
Switch Options		
(1) SPDT Switch (12-36Vdc)	U1	3", 4½"
(2) SPDT Switch (12-36Vdc)	U2	3", 4½"

Line Power with 4-20mA output (Line power (Type 2274) required for switching options) (Terminal blocks standard with 4½" case) (3' shielded cable standard)	AO	3", 4½"
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Wiring Options

(3' shielded cable standard) (Terminal blocks standard with 4½" case.)	EN	4½"
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Keypad Options

Backlite	BL	3", 4½"
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Miscellaneous Options

Battery Backup (Battery standard with Type 2074) (Available with Types 2174 & 2274)	BK	3", 4½"
Weatherproof ABS Gauge Carrying Case	S7	3" only
Protective Rubber Boot (black)	B1	3" only
Protective Rubber Boot (orange)	B2	3" only
Protective Front Cover	PP	3" only
Individual Certified Calibration Chart	C4	
Cleaned for Gaseous Oxygen Service	6B	

DIGITAL INDUSTRIAL GAUGE RANGES (Units in horizontal rows not equivalent ranges):

psi	in. Hg (vacuum)	Comp. (psi)	mmHg (pressure)	in. Hg (pressure)	in. H ₂ O	mBar	ft. H ₂ O	mPa	kPa	Bar/KSC
15	30	15#&Vac	800	30	400	1000	60	1	100	1
30		30#&Vac	1000	60	800	1500	160	1.6	160	1.6
60		60#&Vac	2000	100	1000	2000	200	2.5	250	2.5
100		100#&Vac	3000	160		2500	300	4	400	4
160			5000	200		4000	400	6	600	6
200			10,000	300		5000	600	10	1000	10
300				400		6000	1000	16	1600	16
600				600		10,000		25	2500	25
800				800		15,000		40	4000	40
1000						20,000		60	6000	60
1500								100	10,000	100
2000								140	16,000	160
3000									25,000	250
5000									40,000	400
8000									60,000	600
10,000									100,000	1000
15,000									140,000	1400
20,000										

TO ORDER THIS DIGITAL INDUSTRIAL GAUGE:

Select: 30 2074 SD 02 L 100# XXX

- Dial Size: 3" _____
- Type: 2074 _____
- Wetted parts: 316 SS _____
- Connections: ¼ NPT _____
- Lower: _____
- Range: 100 psi _____
- Optional Characters: _____

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

General Purpose Digital Gauge Type DG25, $\pm 1/2\%$ of Span Terminal Point Accuracy

- **0.5% terminal point accuracy (0.25% optional)**
- **Five-digit LCD display with large .48" character size**
- **Bar graph display (20 segment)**
- **Nine engineering units of measure plus one user programmable unit**
- **Capable of measuring gauge, vacuum and compound ranges from -14.7 psi through 25,000 psi**
- **IP67 weatherproof enclosure**
- **CE compliant, RoHs compliant, UL and cUL 61010-1**
- **The versatile and economical choice for a wide variety of applications**

PRODUCT SPECIFICATIONS

Accuracy:	0.5% F.S. standard, 0.25% optional includes effects of linearity, hysteresis and repeatability
LCD Display:	Five-digit numeric top line, five-character alphanumeric lower line, 20 segment vertical bar graph, four-segment battery life indicator, dedicated icons for gauge timer, back light timer, tare, min and max
Character Height:	Upper line 0.48" (12.19mm), Lower line 0.24" (6.10mm)
View Angle:	12 o'clock
Backlight:	Optional
Engineering Units:	psi, bar, inHg, cmHg, mmHg, kPa, mPa, kg/cm ² , ftH ₂ O, and customer defined unit
Ranges:	45 standard psi and bar ranges from -14.7 to 25000 psi, gauge, vacuum and compound ranges available.
Enclosure Matl.:	Case & Back: Polycarbonate/ABS Window: Polycarbonate
Enclosure Rating:	IP67
Protective Boot:	Optional (Black or Orange)
Serial No.:	Yes
Nominal Size:	2.73" (70mm) dia.; 1.61" (40.9mm) deep; 2.64" (67mm) centerline to end of 1/4 NPT thread height

The Ashcroft® DG25 series offers 0.5% of span accuracy. Laser-welded stainless steel sensor and socket make this product suitable for use with a wide variety of pressure media in demanding industrial applications. This series is also available with enhanced accuracy of 0.25% of span making it suitable for many test and measurement uses.

IP67 ingress protection rating means the DG25 is suitable for demanding applications such as equipment wash down.

The DG25 comes standard with many features such as: tare, min and max memory, programmable custom



*Shown with Optional Protective Boot & Back Light

engineering units, and pressure ranges from vacuum to 25,000 psi.

Wetted Matl.:	17-4 ph sensor & 316L socket, laser welded
Connection:	1/4 NPT lower standard, Options 1/8 NPT, G 1/4 B, others consult factory; 6 o'clock (lower) position standard
Battery:	Two AA alkaline batteries
Battery Life:	2000 hours minimum
Battery Indicator:	4 levels
Cycle Life:	10 million cycles
Vibration:	MIL-STD-202G, Method 201A
Shock:	MIL-STD-202G, Method 213B, Test Condition K
Operating Temp:	-4°F to 140°F, (-20°C to 60°C) ambient temp.; -4°F to 176°F, (-20°C to 80°C) process media temp
Storage Temp:	Batteries Installed: -4°F to 140°F, (-20°C to 60°C) Batteries Removed: -4°F to 176°F, (-20°C to 80°C)
Temp. Coef.:	0.04%/°F (-20°F to 180°F) zero and span. Reference Temp. 70°F
Leak Integrity:	10-7 std. cc/sec.
Update Rate:	1Hz, 2Hz, 4Hz,
Keypad Functions:	Three key; available with multi press functionality

Hard Keys:	on/off; Power Symbol and Enter zero; Zero, Tare, and Up Arrow menu Access, Backlight, Down Arrow
Agency Approvals:	CE (heavy industrial), ASME B40.7, RoHs, UL 61010/ cUL
Proof Pressure: % of Span	Vac - 2000: 200% 3000 - 5000: 150% 7500 - 25,000: 120%
Burst Pressure: % of Span	Vac - 2000: 800% 3000 - 5000: 500% 7500 - 25,000: 300%
Options:	XB3 Pouch with Logo X6B Cleaned for Oxygen Service XC4 Individual Calibration Chart XNH Wired SS Tag

TO ORDER THIS TYPE DG25 GAUGE:

Select:	25	DG25	5	1	L	1	N/A	M02	L	3000#	-	XB3
1. Dial Size: 2 1/2"												
2. Case Type Number: DG25												
3. Accuracy: (3) 0.25%, (5) 0.50%												
4. Type: (1) Battery												
5. Backlight: (L), (N) Not Applicable												
4. Protective Boot: (0) None, (1) Black, (2) Orange												
5. Electrical Connection: (N/A)												
6. Connection Size: (M01), (M02), (MG2), (MGA), (F09),												
7. Connection Location: (L)												
8. Range: 15 psi-25,000 psi												
9. Options: (XB3), (X6B), (XC4), (XNH)												