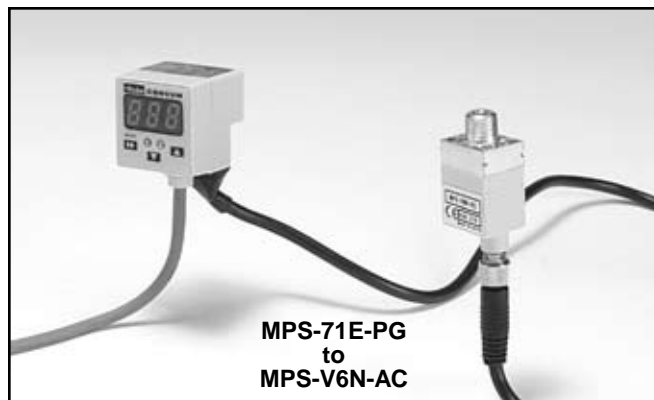




# MPS-7



## Features

- **One Display with Output Programming Capability for MPS-5, 6, or 8 Analog Sensors**
- **Displays Pressure and Converts Analog Signal from Remote Sensor to NPN or PNP Open Collector Transistor Output, 30VDC, 125mA**
- **Compatible with 1 to 4 Remote Sensors**
- **MPS-71 Response Time Less Than 2.0 Milliseconds**
- **MPS-74 Response Time Less Than 5 Milliseconds**
- **CE Marked**

## Programming Options

	MPS-71	MPS-74
Outputs Change N.O. / N.C.	✓	✓
Units of Measure change	✓	✓
EZY Mode	✓	
Hysteresis Mode	✓	✓
Window Comparator Mode	✓	✓
Auto Teach Mode	✓	
Auto Surveillance Mode	✓	
Display Refresh Settings	✓	
Output Response Time	✓	
Display Peak / Bottom Difference Value	✓	
Special Display Features	✓	
Lockout Option	✓	✓
Peak Value at a Touch	✓	
Bottom Value at a Touch	✓	
Zero Reset	✓	
Red / Green LED Display Options		
Peak Surveillance Mode		✓
Energy Savings Mode	✓	✓
Scan Mode		✓
Password Lockout		
Error Output Mode		
Setting of Decimal Point		

Mounting Bracket Included with Sensors.

**C**  
 Technical  
 MPS-2  
 MVS-201  
 MPS-32  
 MPS-6  
 MPS-7  
 MPS-8  
 SCPSPD  
 Accessories,  
 Symbols,  
 Glossary



## MPS-7 Ordering Numbers

(Bold Items are Most Popular)

Number of Remote Sensors	Outputs per Remote Sensor	Output Circuit	Electrical Connector	Part Number**
1 Remote Sensor	2	PNP Sourcing	4 Pin, M8	<b>MPS-71E-PC</b>
		NPN Sinking		<b>MPS-71E-NC</b>
		PNP Sourcing	2M Lead Wire	<b>MPS-71E-PG</b>
		NPN Sinking		<b>MPS-71E-NG</b>
4 Remote Sensors	1	PNP Sourcing	2M Lead Wire	<b>MPS-74E-PG</b>
		NPN Sinking		<b>MPS-74E-NG</b>

\*\* Mounting Bracket Included

**Note:** To connect MPS-7 Series Remote Panel Display to MPS-5 or MPS-6 Series Analog Sensors, use M8 to AMP Connector Cable CB-M8-4P-2E.

**Note:** To connect MPS-7 Series Remote Panel Display to MPS-8 Series Analog Sensors, order MPS-8 Sen.



## Specifications

Remote Pressure Range	Vacuum (V)	Positive (P)	Compound (R)	Low (L)
<b>Units of Measure</b>	bar: 0.001	bar: 0.01	bar: 0.01	bar: 0.001
<b>Display Resolution</b>	kPa: 0.1	MPa: 0.001	kPa: 1	kPa: 0.1
	mmHg: 1	kgf/cm <sup>2</sup> : 0.01	kgf/cm <sup>2</sup> : 0.01	kgf/cm <sup>2</sup> : 0.001
	inHg: 0.1	PSI: 1	PSI: 0.1	PSI: 0.1
<b>Proof Pressure</b>	See Remote Sensor Specifications			
<b>Operating Temperature</b>	32 to 122°F (0 to 50°C)			
<b>Storage Temperature</b>	14 to 140°F (-10 to 60°C)			
<b>Humidity</b>	35 to 85% RH			
<b>Electrical Connection</b>	<b>(G)</b> Grommet Open Lead, <b>(C)</b> M8			
<b>Power Supply</b>	10.8 to 30VDC, Ripple (P-P) 10% Max., Reverse Voltage Protection			
<b>Display</b>	<b>MPS-71:</b> 3-Digit, 7-Segment LED, <b>MPS-74:</b> 4-Digit, 7-Segment LED			
<b>Display Refresh</b>	<b>MPS-71:</b> 0.1 to 3.0 sec. (Factory set at 0.1), <b>MPS-74:</b> 0.2 Fixed			
<b>Circuit</b>	NPN (Sinking), PNP (Sourcing) Open Collector Transistor, 30VDC, 125mA			
<b>74 - 1 Switch Output</b> <b>71 - 2 Switch Outputs</b>	Output Signals, NPN or PNP, LED Indicator			
<b>Response Time</b>	MPS-71 <2ms, MPS-74 <5ms			
<b>Repeatability</b>	± 0.2% F.S.			
<b>Thermal Error</b>	1% over ±25°C (77°C) Temperature Change: Range 32 to 122°F (0 to 50°C)			
<b>General Protection</b>	IP40, CE Marked			
<b>Current Consumption</b>	MPS-71 <45mA, MPS-74 <75mA			
<b>Vibration Resistance</b>	10 to 55Hz, 1.5mm, XYZ, 2 hrs.			
<b>Shock Resistance</b>	10 G, XYZ			
<b>Material</b>	<b>Body:</b> Polycarbonate			
<b>Mass</b>	<b>MPS-71:</b> .90 oz. (25g), <b>MPS-74:</b> 1.0 oz. (30g)			



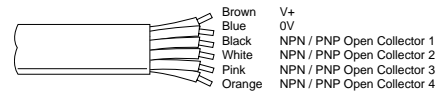
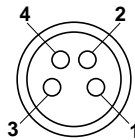
**MPS-71 Open Collector Wiring**

- Pin # Grommet Lead Only**  
 1 Brown: 24VDC  
 2 Black: NPN / PNP Open Collector 1  
 3 Blue: 0VDC  
 4 White: NPN / PNP Open Collector 2

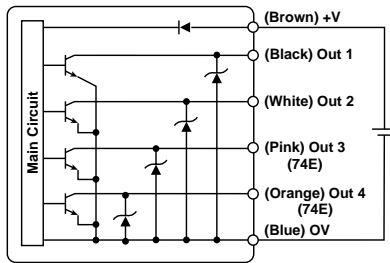
**MPS-74 Open Collector Wiring**

- Pin # Grommet Lead Only**  
 Brown: 24VDC  
 Black: NPN / PNP Open Collector 1  
 Blue: 0VDC  
 White: NPN / PNP Open Collector 2  
 Pink: NPN / PNP Open Collector 3  
 Orange: NPN / PNP Open Collector 4

**Sensor Male Pin Out**



**Internal Circuit**



**MPS-71 & MPS-74 NPN / PNP Open Collector**

**⚠ Cautions**

The MPS-7 Central Display is designed to monitor pressure and is not a safety measure to prevent accidents. The compatibility of the sensor is the responsibility of the designer of the system and specifications.

**Operating Environment**

- Parker Sensors have not been investigated for explosion-proof construction in hazardous environments.
- Do not use with flammable gases, liquids, or in hazardous environments.
- Avoid installing the sensor in locations where excessive voltage surges could damage or affect the performance of the sensor.

**Operations**

- Dedicate a power supply of 10.8 to 30VDC to the MPS-7 Series and set the ripple to Vp-p10% or less. Avoid excessive voltage. Avoid voltage surges.
- A small amount of internal voltage drop is possible. Ensure the power supply minus any internal voltage drop exceeds the operating load.

**Installation**

- Avoid short-circuiting the MPS-7 Series. Connect the brown lead to V+ and blue lead to 0V.
- Do not connect the output lead wires (black / white) to the power supply.
- Outputs not being used should be trimmed and insulated.
- Install using Panel Mount Bracket or Back Mount Brackets.

**Error Messages**

Display	Description	Solutions
<i>Err</i>	Zero Reset Error	Reset Zero Below 3% of F.S.
<i>PErr</i>	Peak Value Error	Check Vacuum Source
<i>Er1</i>	System Error (Internal)	Contact Factory
<i>CE1</i>	Over current of Output 1	Load current exceeds maximum 125mA.
<i>CE2</i>	Over current of Output 2	
<i>CE3</i>	Over current of Output 3 (MPS-74)	
<i>CE4</i>	Over current of Output 4 (MPS-74)	
<i>FFF</i> <i>-FF</i>	Applied pressure exceeds pressure range	Apply pressures within the rating of the sensor

**C**

Technical

MPS-2

MVS-201

MPS-32

MPS-6

MPS-7

MPS-8

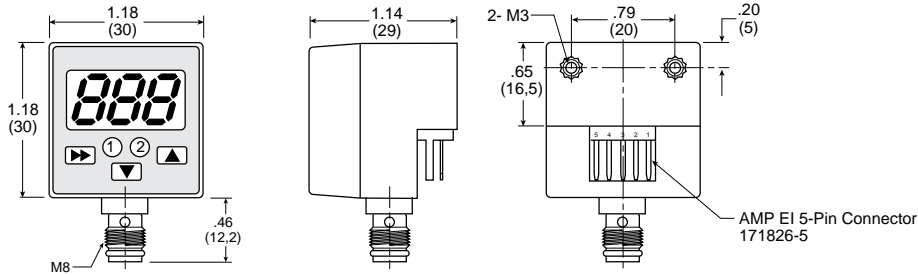
SCPSD

Accessories, Symbols, Glossary



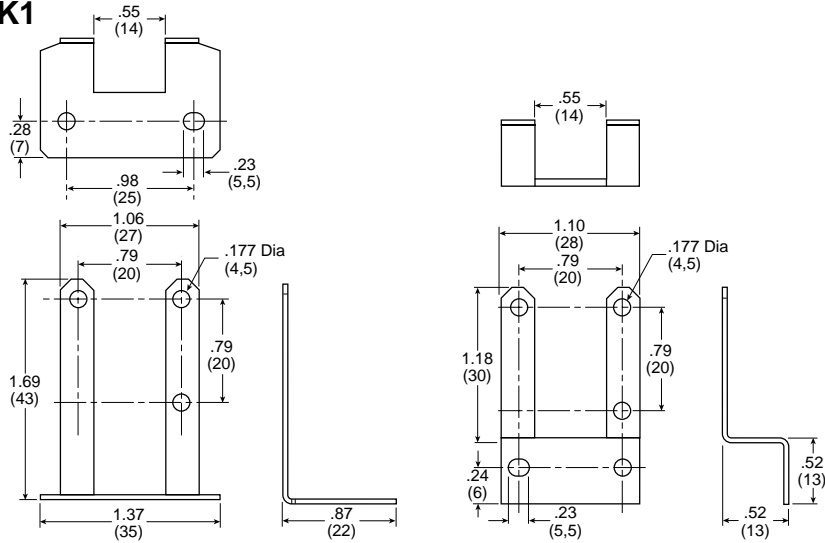
**Dimensions**

**MPS-71**

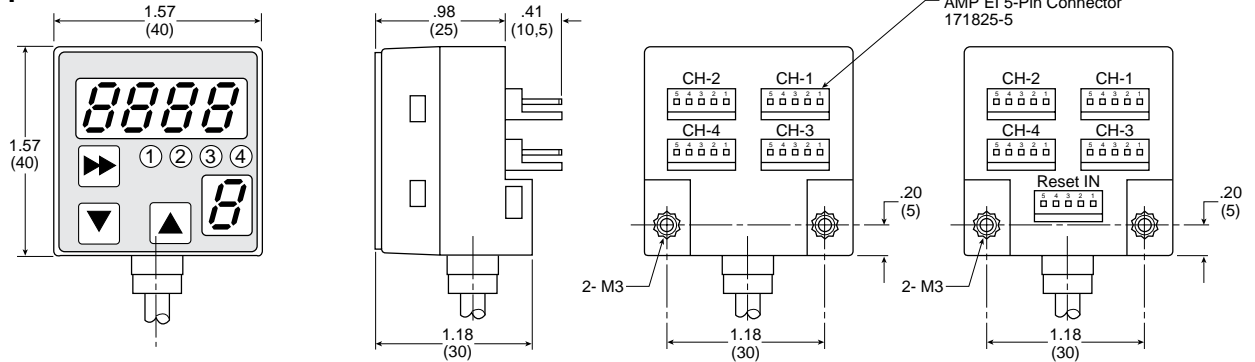


**MPS-ACCK1**

**Mounting  
Bracket  
(Included)**

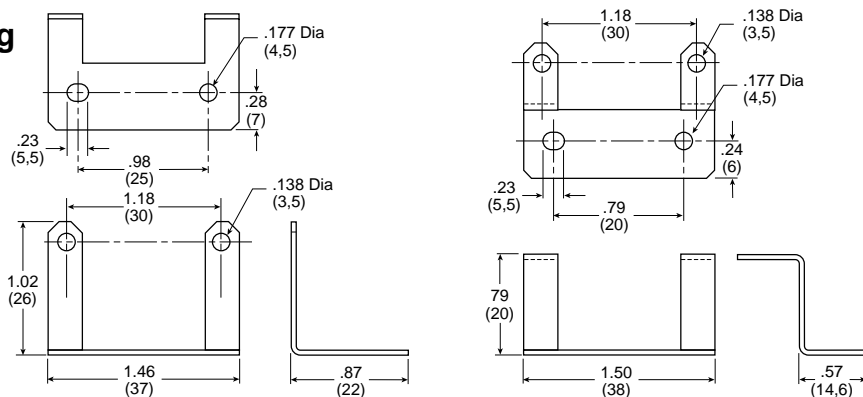


**MPS-74**



**MPS-ACCK3**

**Mounting  
Bracket  
(Included)**



C
Technical
MPS-2
MVS-201
MPS-32
MPS-6
MPS-7
MPS-8
SCPSD
Accessories, Symbols, Glossary



See page C52 for Symbol Explanation

**1** Hold Press 1x

Output Set Open or Closed  
Easy Mode  
Activation

ou1 ⇌ no nc

ouc2 ⇌ no nc

-PR -bR -H9 -iH

PR bR F9 PS

ESY ⇌ off on

---

**2** Press 2x

Output Mode 1  
Hysteresis or  
Window  
Comparator

ou1 ⇌ HYS CnP OFF

End

**3** Press 4x

Output Mode 2  
Hysteresis or  
Window  
Comparator

ouc2 ⇌ HYS CnP OFF

End

**4** Press 1x

Output 1  
Switch Point  
Setting

Hysteresis  
Mode

H-1 ⇌ 70 145

h-1 ⇌ 13 145

Window Comparator Mode

Low

A-1 ⇌ 42 144

High

b-1 ⇌ 71 145

End

**5** Press 3x

Output 2  
Switch Point  
Setting

Hysteresis  
Mode

H-2 ⇌ 97 195

h-2 ⇌ 13 145

Window Comparator Mode

Low

A-2 ⇌ 85 144

High

b-2 ⇌ 113 145

End

**6** Press 5x

Automatic Teach Mode  
& Auto Surveillance

RL ⇌ on off

RLn ⇌ 1 100

End

Vacuum Cycle: 803

Release Cycle: 0

Note: When Auto Surveillance is turned on P1 is added to Output 1 setting, Output 2 is turned off and P-1 becomes Output 2.

**7** Press 6x

Display Refresh  
Settings / Output  
Response Time  
Interval

dSP ⇌ 0.1 30

RL ⇌ 1 16 64

End

5 12

**8** Press 7x

Display Peak Value  
Bottom Value or  
Their Difference

Pb ⇌ off on

Pbt ⇌ 10 99

Pbd ⇌ PE bo du

End

**9** Press 8x

Special Display  
Features

dSF ⇌ off on

Fnc ⇌ 1b 1d 2b 2d

End

off

RL

**10** Press 9x

Select  
Units of  
Measure

Select  
Pressure

P1 P2 P3 P4

Vacuum Low Positive Compound  
Pressure Pressure Pressure

End

**11** Hold Press 1x

Lock

Hold Press 1x

Unlock

**12** Press 1x

Peak  
Value

Press 1x

Bottom  
Value

**13** Press 3 Sec

Zero Reset



Technical

MPS-2

MVS-201

MPS-32

MPS-6

MPS-7

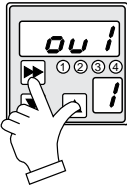
MPS-8

SCPSD

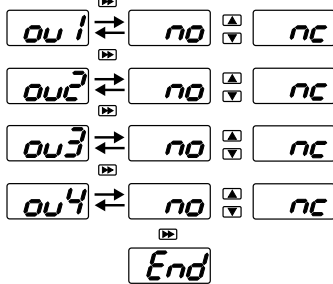
Accessories,  
Symbols,  
Glossary



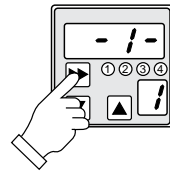
1 Hold  $\square$   
Press  $\square$  1x



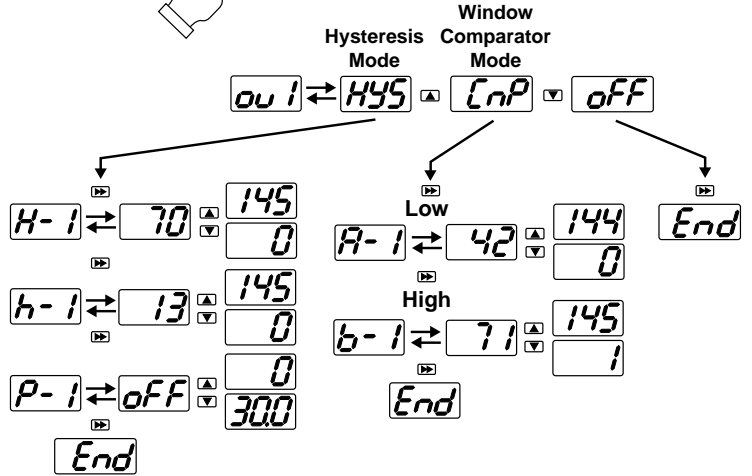
Output Selection  
Normally Open / Normally Closed



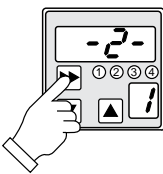
2 Press  $\square$  1x



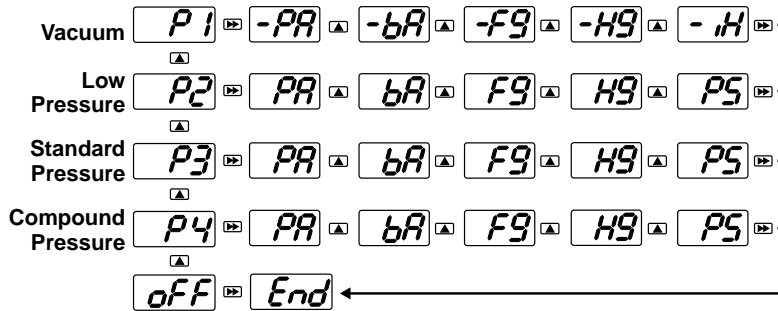
Select Output Mode  
Hysteresis or Window Comparator  
Output Setting  
Peak Surveillance  
(Repeat Procedure for Each Channel)



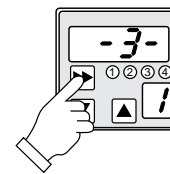
3 Press  $\square$  2x



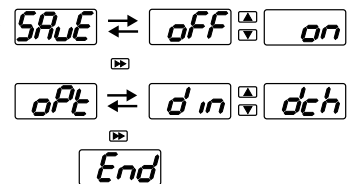
Select Remote Pressure  
Select Unit of Measure



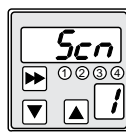
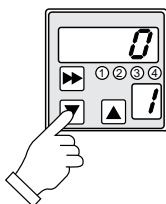
4 Press  $\square$  3x



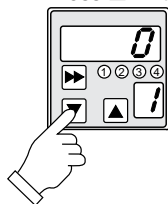
Energy Saving Mode  
Digital IN Mode (Remote Zero Reset)



5 Press  $\square$  and Hold 3 Seconds  
Scan Mode

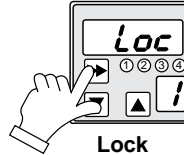


Press  $\square$  1x to Deactivate



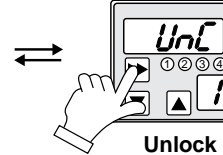
2  
3 Second Intervals  
3  
4

6 Hold  $\square$   
Press  $\square$  1x



Lock

Hold  $\square$   
Press  $\square$  1x



Unlock

C

Technical

MPS-2

MVS-201

MPS-32

MPS-6

MPS-7

MPS-8

SCPSD

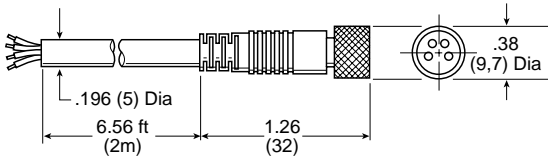
Accessories,  
Symbols,  
Glossary



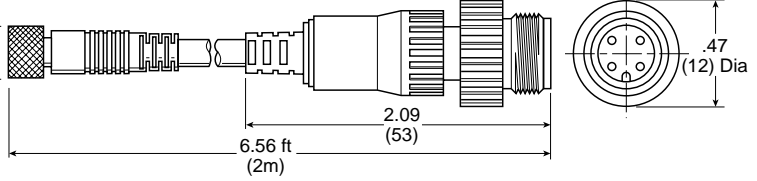
# Accessories

## Cables (Applicable to MPS-71E Display Units Only)

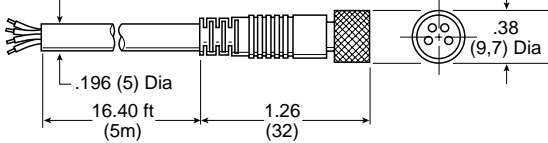
**CB-M8-4P-2M, Female to Open Lead**



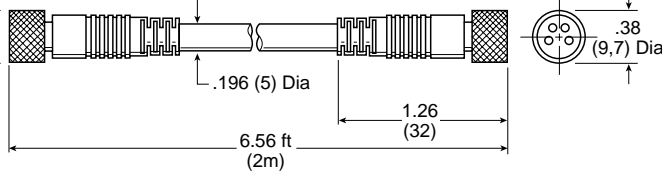
**CB-M8-4P-M12-2M, M8 Female to M12 Male**



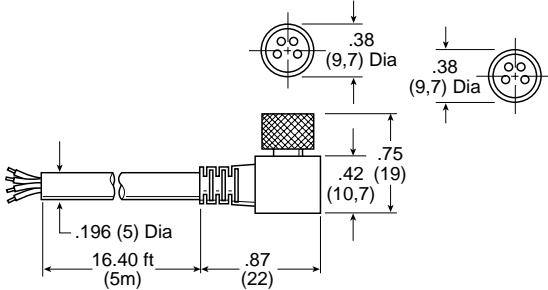
**CB-M8-4P-5M, Female to Open Lead**



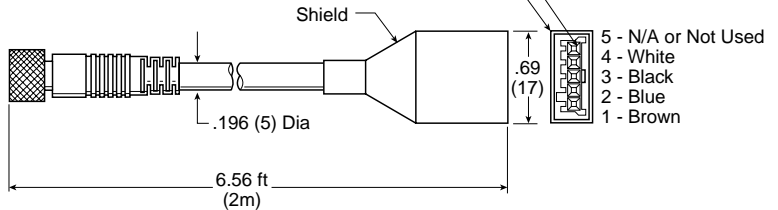
**CB-M8-4P-M8-2M, M8 Female to M8 Male**



**CB-M8-4P-5M-90, Female to Open Lead**



**CB-M8-4P-2E, M8 Female**

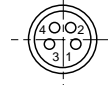


- 5 - N/A or Not Used
- 4 - White
- 3 - Black
- 2 - Blue
- 1 - Brown

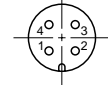
**Female Interface  
 4-Pin, M8**



**Male Interface  
 4-Pin, M8**



**Male Interface  
 4-Pin, M12**



Cable Pin	Color
1	Brown
2	White
3	Blue
4	Black

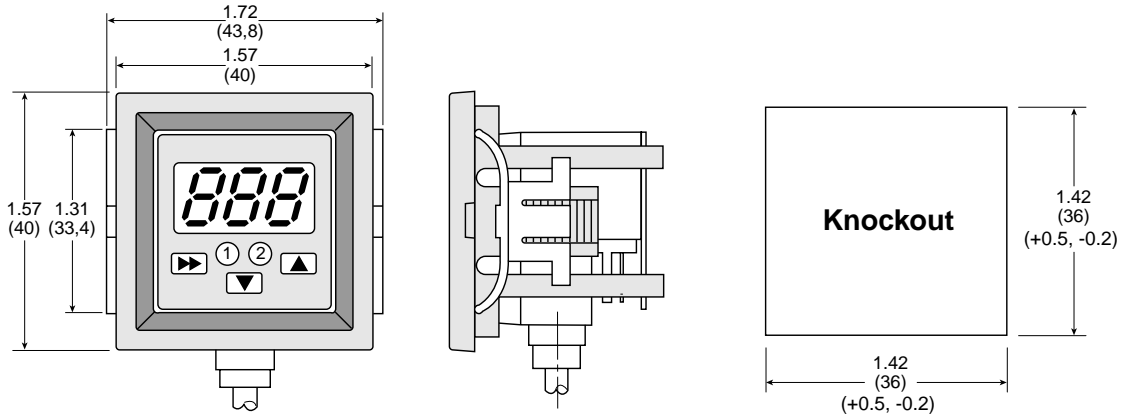
C
Technical
MPS-2
MVS-201
MPS-32
MPS-6
MPS-7
MPS-8
SCPSD
Accessories, Symbols, Glossary



## Accessories

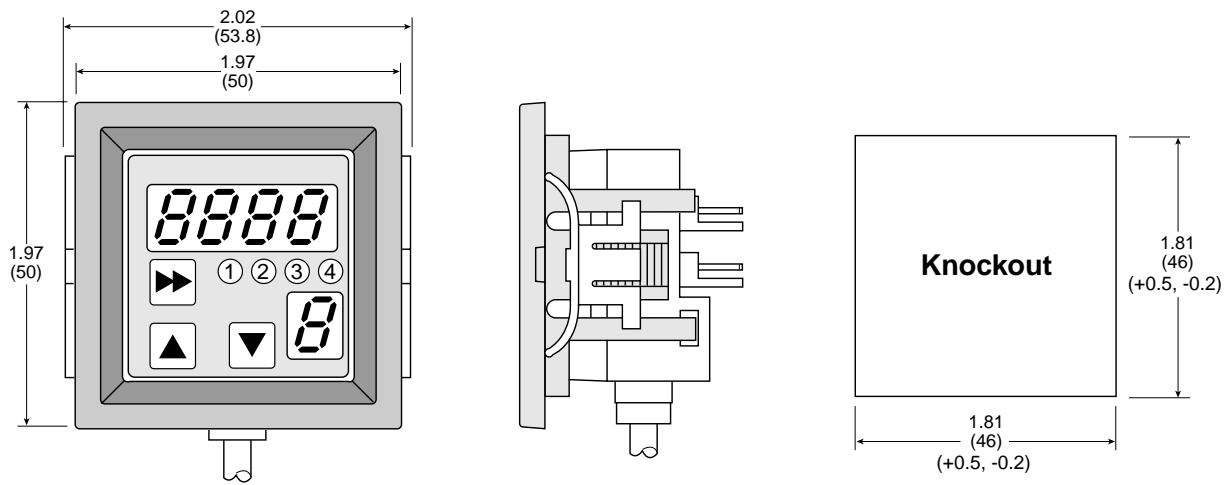
### MPS-ACCH4

#### Panel Mounting Bracket for MPS-71



### MPS-ACCH5

#### Panel Mounting Bracket for MPS-74



Accessories, Symbols, Glossary	C
	Technical
	MPS-2
	MVS-201
	MPS-32
	MPS-6
	MPS-7
	MPS-8
	SCPSP