

# SEM710PM SERIES DUAL CHANNEL PRESSURE, TEMPERATURE TRANSMITTER WITH LOG FUNCTION AND DISPLAY OPTION

- **UP TO 100 bar PRESSURE / SCALED PROCESS + TEMPERATURE**

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- **DUAL CHANNEL (4 to 20) mA LOOP POWERED**

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- **DISPLAY OPTION**

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- **USB AND NFC INTERFACE**

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- **DATA LOGGER\* (USB or COMPATIBLE ANDROID DEVICE)**

## ➤ INTRODUCTION

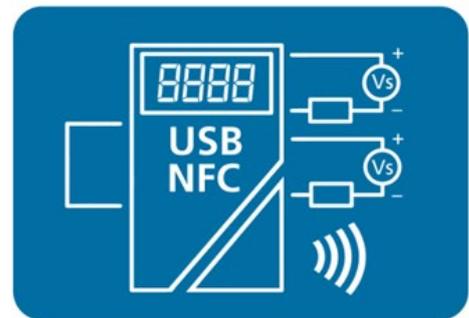
The SEM710PM and SEM710PM/DP are dual channel loop powered transmitters with sealed gauge pressure ranges up to 100 bar, plus temperature.

A datalogging feature is provided via either USB or NFC (suitable Android device) connectivity.

The logging function can record pressure or a scaled process value with the temperature of the medium.

The SEM710PM/DP version can display pressure in various units, a scaled process value (custom units) and temperature (°C or °F) on a 6-digit LCD display.

Display version shown.



## ➤ FEATURE HIGHLIGHTS

### OUTPUTS

Dual channel two wire (4 to 20) mA outputs: channel 1 powers the instrument; channel 2 (use optional) is isolated from channel 1 and may be used as a repeater or to send another process variable. Both channels can be sourced to either temperature, pressure in various units, or a custom process value, rescaled in any unit using a 22-step linearisation tool (for tank level or similar).

### DATA LOGGING FUNCTION (See Logger\* entries, check website for latest Android version compatibility)

SEM710PM series also provides a powerful data logging function. The log points can be set up to 3600 for the SEM710PM-DP (2000 points for the SEM710PM) points; each point is time and date-stamped together with pressure/process value, temperature and loop power condition on Channel 1. The SEM710PM series can continue to record time-stamp data for over 4 hours on the loss of the loop supply and resume on repower.

### CALIBRATION and USER-LINEARISATION

A 5-point calibration can be applied to the pressure sensor using the USBSpeedLink software.

As well as a straight-line profile, up to 22 points (X,Y interpolation) of user-linearisation are available for creating custom curves and corrections. An example of use: volume calculation in a non-linear tank.

### NFC CONFIG and DISPLAY

Using a suitable Android device running the Status Instruments free NFC Configuration app, the process values of the non-display SEM710PM version can be shown.

The NFCLink Config app. can also be used to programme both the SEM710PM and SEM710PM-DP version

# SEM710PM SERIES DUAL CHANNEL PRESSURE, TEMPERATURE TRANSMITTER WITH LOG FUNCTION AND DISPLAY OPTION

INPUT Pressure		SPECIFICATIONS @20°C	
Type	bar Gauge = bar Absolute	Accuracy/stability	
Gauge *1	-0.5 to 0.5 0 to 3 -1 to 9 0 to 30 0 to 100 0 to 600	0.5 to 1.5 1 to 4 0 to 10 1 to 31 1 to 101 1 to 601	{ ±0.15% of full scale at 20°C *2 ±0.5% of full scale between (0 to 50) °C *3 ±0.7% of full scale between (-10 to 80) °C *3 }
Overpressure	1.5 x full scale		
Burst pressure	3 x full scale		
Thermal drift	(-10 to 80) °C compensated		
*1 Shows zero bar at 1.0 bar absolute, use custom scaling to display as absolute			
*2 Linearity best straight line, hysteresis, repeatability			
*3 Total error band: Maximum deviation within specified pressure and operating temperature range			
To maintain full accuracy annual calibration is recommended: contact <a href="mailto:support@status.co.uk">support@status.co.uk</a> for details			

INPUT Temperature		SPECIFICATIONS @20°C	
Type	Range	Accuracy/stability	
Process temperature at probe mounting point	(-40 to 110) °C	Typically, ±2.0 °C	

DISPLAY (SEM710PM/DP only)	
Type/options/function	Description
Display height	7.9 mm non-backlit
Display information options	Pressure value, Process value, °C or °F plus "Loss of power", "NFC", "USB", icons, 8 segment log volume/signal indicators.
High intensity LED	Warning options

OUTPUTS	
Type/options/function	Description
Output type	(4 to 20) mA control loop
Accuracy	(mA output /2000) or 5 uA, whichever is the greater
Loop Voltage effect	0.2 uA /V
Thermal drift	1 uA / °C
Maximum output	20.5 mA
Minimum output	3.9 mA
Maximum output load	[(Vsupply-10)/20] K Ohms (Example: 700 Ohms @ 24 V)
Channel isolation	500 Vdc, 48 Vdc working
Note: Ch1 can be used as a single output but for Ch2 to operate correctly Ch1 must also be powered	

USB INTERFACE REQUIREMENTS	
Configuration hardware	PC with Windows 7 or later with USB port A to mini B cable (not included)
Configuration software Logging software	USBSpeedLink USB LogLink Download from <a href="http://www.status.co.uk">www.status.co.uk</a>

NFC INTERFACE REQUIREMENTS (ENABLED ANDROID DEVICE)	
Android version 5 onwards, check website for latest Android version compatibility	
Android device	Compatibility to read NFC Tag type 4 to full capacity 65536 bytes *1
RF Interface	ISO/IEC 14443 Type B Compliant (13.56 MHz)
Configuration software Logging software	NFCLink NFCLogLink Download from <a href="http://www.status.co.uk">www.status.co.uk</a>
*1 If the android device cannot read full bytes the maximum number of log points will be reduced.	

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USB/NFC USER-CONFIGURATION OPTIONS (software USBSpeedLink, NFCLink)		
Type/options/function	Description	Notes
Sensor configuration USB Only	User-calibration	Up to 5 points
Display configuration SEM710PM/DP (only)	Decimal place Temperature units Pressure units  Process units (any)	None to 5, 1 DP for temperature °C or °F Bar default, multiple selections and option to create custom unit (any) With 22-point linearisation
Pre-set sensor to setpoint	Pressure and temperature	Locks input value to setpoint For diagnostics
Pressure unit	Default bar	User-selectable from pre-set list
User-linearisation	Any unit	22 co-ordinate pairs for tank linearisation
Other device options	Synchronise clock Write Tag, Contact Location settings	To PC time setting 24 characters each Latitude and longitude
Logger* With USB only	Set device passkey number Clear, start new log Android compatibility	Device passkey is used to protect the NFC interface. V (5-11), V (5-latest, see website)
Channel 1 and 2	mA output options: Pressure, Process value, Temperature Range Error signal	Low (4mA) High (20mA) (3.8 or 21.5) mA
Live data	Read values  Auto read (USB only)	Pressure, process value, temperature (Ch1, Ch2) mA output values Time, date (USB only)

USB/NFC LOGGER USER INTERFACE (software USBLogLink, NFCLogLink) For latest Android compatibility refer to <a href="http://www.ststus.co.uk">www.ststus.co.uk</a>		
Type/options/function	Description	Notes
Logger*	Start, set log parameters Read log parameters	Rate, (delay) start, number of points, rolling or fixed log, synchronise clock
USB	SEM710PM/PM up to 3600 logs	SEM710PM up to 2000 logs
Android version 5 to 11	SEM710PM/PM up to 3600 logs	SEM710PM up to 2000 logs
Android version 5 to latest	SEM710PM/PM up to 1800 logs	SEM710PM up to 2000 logs
	Read live data View log data/graph log data	Input values, output values Save data/Recall data

GENERAL	
Function	Description
Power supply Ch1, Ch2	(10 to 30) Vdc SELV
Output response time	Typicaly .500 ms Maximum 1000 ms
Power loss back-up	Will retain time stamp for logging for > 4 hr
Warning LED	Out of range inputs
Clock accuracy	±2 seconds per month typically

CONNECTIONS	
Sensor to process	¼ inch BSP male with adaptor options (see accessories)
Output	Two-part screw connectors
USB connection	USB mini B port

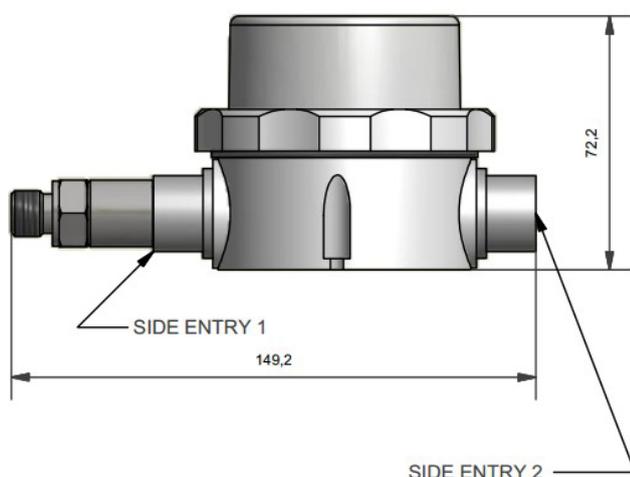
APPROVALS	
EMC	BS EN 61326
Ingress protection	BS EN 60529
RoHS Directives 2 & 3	2011/65/EU & EU 2015/863, and the UK designated standards

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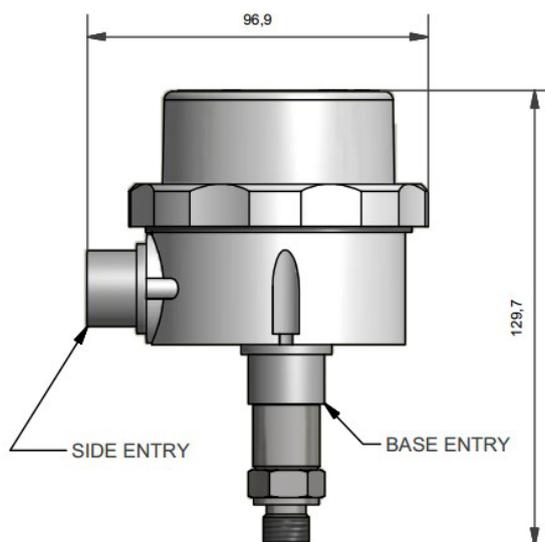
MECHANICAL	
Enclosure (case)	ABS, grey base, grey clamp ring, side or base mount options
Display cover	Polycarbonate, clear
Case entry	1 x M20 female thread, blanking plug supplied
Front bezel diameter	65 mm
Weight (approximate)	240 g
Material in contact with media	Stainless steel 316L
O-ring	Viton

ENVIRONMENTAL	
Function	Description
Ambient housing temperature	Operating/storage (-30 to 70) °C
Ambient sensor temperature	Operating (-40 to 110) °C
Ambient humidity	Operating/storage (10 to 90) %RH non-condensing
Protection	IP67, cable entry must be sealed to IP67
USB configuration ambient	(10 to 30) °C

**Body type B**



**Body type C**



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<b>ORDER CODE</b>			
<b>SEM710PM</b>	= No display fitted		
<b>SEM710PM/DP</b>	= Display fitted		
Case	Body Type	Input range options in sealed gauge bar	
Side entry sensor can be wall mounted	/B	/option	0.5 = (-0.5 to 0.5)    3 = (0 to 3) 9 = (-1 to 9)        30 = (0 to 30)
Base entry sensor	/C	/option	100 = (0 to 100)    600 = (0 to 600) See Input specification for absolute ranges For other ranges please ask
Example: side mounted sensor, (0 to 30) bar			
<b>SEM710PM</b>	<b>/B</b>	<b>/30</b>	
<b>SEM710PM/DP</b>	<b>/B</b>	<b>/30</b>	Display version

<b>ACCESSORIES</b>	
Swivel adaptor ¼ BSP	SA14BSP
Swivel adaptor ½ BSP	SA12BSP
Swivel adaptor ¼ NPT	SA14NPT
Swivel adaptor other options available	sales@status.co.uk
Hygienic fittings available	sales@status.co.uk
USB lead	USB lead, part number 42-200-0001-01

To maintain full accuracy annual calibration is required: Contact support@status.co.uk for details  
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Status Instruments Ltd  
Status Business Park  
Gannaway Lane, Tewkesbury  
Gloucestershire, UK  
GL20 8FD

Tel: +44 (0)1684 296818  
Fax: +44 (0)1684 293746  
Email: sales@status.co.uk  
Website: [www.status.co.uk](http://www.status.co.uk)

