



# SIO-100S Series

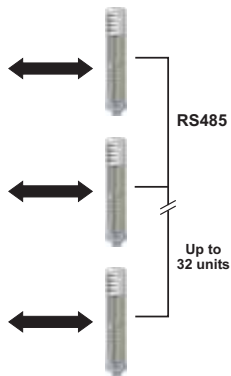
## Industrial Serial I/O

- Analogue and Digital I/O multiplexer
- Data transfer via Modbus or exception reporting protocol
- RS232 and RS485 communication ports
- I/O interface for MTL wireless networks
- Configurable input types



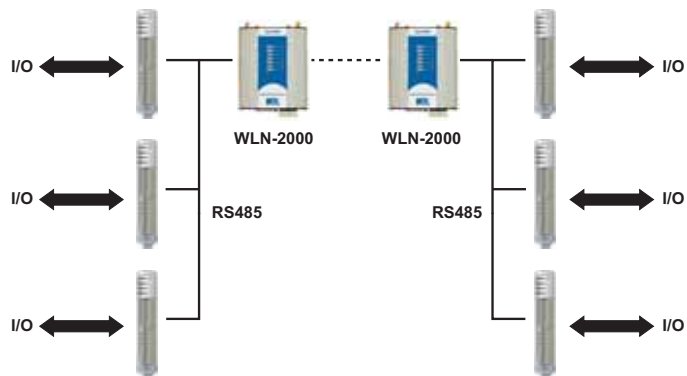
### Flexible serial I/O with multiple application modes

- Selectable communications protocol - Modbus (RTU) or exception reporting (peer to peer with security encryption).
- Each model has a minimum of 8 (SIO-110DX has 16) digital I/O channels - each channel can be used as a volt free contact input or FET output (30VDC, 0.2A maximum).
- Each DIO channel can function as a pulse output to a maximum 15Hz with the first four DIO/pulse input channels on the SIO-110DX to a maximum pulse rate of 1kHz. Pulse inputs provide both totalised count and pulse rate as separate values.
- Configurable analogue inputs - 0-20/4-20mA: 0-10V. Selectable as 8 single terminal inputs (commoned) or 4 dual-terminal 'floating' inputs (SIO-120AI).
- Analogue outputs are commoned with selectable 'supply' or 'sink' connections (SIO-130AO).
- Each analogue input has a high/low set point to determine a set-point status.
- Field test and display I/O inputs and/or force outputs, monitor and confirm communications and configure units with user friendly configuration software.



Serial I/O transfer

(peer to peer, exception reporting or Modbus)



Expansion I/O for MTL wireless I/O

## SPECIFICATION

### DIGITAL INPUTS

**Number**

**SIO-110DX** - up to 16 selectable I/O  
**SIO-120AI & SIO-130AO** - up to 8 selectable I/O

**Type**

Volt-free contacts or NPN transistor

**Surge protection**

Yes

**Contact wetting current**

5mA

### DIGITAL OUTPUTS

**Number**

**SIO-110DX** - up to 16 selectable I/O  
**SIO-120AI & SIO-130AO** - up to 8 selectable I/O

**Type**

FET outputs

**Voltage range**

30V DC @ 200mA

### ANALOGUE INPUTS - SIO-120AI only

**Number**

4 dual-terminal floating inputs or  
8 single-terminal commoned inputs

**Type**

"Floating" differential inputs

**Common mode voltage**

27V

**Power for external loops**

24V DC provided

**Digital filtering**

1 sec

**Resolution**

0-20mA/0-10V - 12 bit

**Accuracy**

0.1%

### ANALOGUE OUTPUTS - SIO-130AO only

**Number**

8

**Type**

Selectable as current/voltage source or  
current sink to common

**Power for external loops**

20V DC provided

**Maximum loop resistance**

1000 ohms

**Resolution**

0-20mA/0-10V - 12 bit

**Accuracy**

0.1%

**Max. total current**

160mA

### PULSE INPUTS - SIO-110DX only

Specifications as per digital inputs.

**Number**

4

**Max pulse rate**

1kHz

**Pulse width min.**

0.5ms

**Terminals**

DIO 1-4

### PULSE OUTPUTS

Specifications as per digital outputs.

**Number**

8

**Max pulse rate**

15.625Hz

**Pulse width min.**

32ms

**Terminals**

DIO 1-8

### SERIAL PORT

RS485 serial port, configurable up to  
115.2kb/s, 7/8 data bits, none/even/odd  
parity, 1 / 2 stopbits

RS232 configuration port - 9pin DB9 female  
connector, 9.6kb/s, 8/n/1

RS485 max. cable distance 2000 m terminal  
connections.

### POWER SUPPLY

10.8 - 30V DC, over-voltage and reverse  
power protected

Internal monitoring of supply voltage

Values may be transmitted to remote modules  
for monitoring

Internal DC/DC converter provides analogue  
loop supply

24VDC, 250mA for **SIO-120AI**

20VDC, 160mA for **SIO-130AO**

### GENERAL

**Hazardous area approvals**

CSA Class 1 Div 2 (USA/Canada) -  
pending

**EMC compliance**

To FCC Part 15, AS3548, 89/336/EEC

**Environmental**

**Temperature:** -40 to +60°C

**Humidity:** 0 - 99% RH non-condensing

**Housing**

High density thermoplastic

**Dimensions**

150 x 180 x 35mm

**Mounting**

'T' section 35mm DIN rail to EN 50022

**Weight**

<0.4kg

**I/O terminals**

Multi-way pluggable connector up to  
12 AWG (2.5mm<sup>2</sup>) capacity

**LED indicators**

Power supply, processor OK, serial TX  
and RX digital I/O.

### ORDERING INFORMATION

<b>SIO-110DX</b>	Serial digital I/O module 16 channels
<b>SIO-120AI</b>	Serial AI module, 8 x DIO, 8 x AI (4 x DIFF)
<b>SIO-130AO</b>	Serial AO module, 8 x DIO, 8 x AO

AI = Analogue Input    AO = Analogue Output

DIO = Digital Input or Outputs

DIFF = Differential inputs



*The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.*



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EPS SIO-100S Rev1.0 210610