

# LC42

## 4 channel Analog Input/ 2 channel Digital I/O PL20 Transceiver

### 1. Description

The LC42 transceiver provides 4 analog (4-20mA) input channels, as well as 2 digital I/O channels. Power and communications are distributed on the same wires using the Lonworks PL20 power line communication protocol.

### 2. Input Channels

The 4 (four) analog inputs are suitable for 3-wire 4-20mA wiring as well as 2-wire 4-20mA wiring. Each signal input is protected with a resettable fuse, and the transceiver can deliver up to 100mA per channel to power external sensors.

By default, the shorting jumper at each channel links terminal **50** to 0V. Should the user require the signal to be available to another external device, the shorting jumper for the relevant channel must be removed.

The 2 (two) digital inputs are individually isolated using opto-isolator components. To activate the respective input, the two terminals of the input must be linked (short circuited). This type of input is ideal for monitoring a voltage free contact.

### 3. Output Channels

The 2 (six) digital outputs are of the open drain type. Each output provides up to 150mA at the available line voltage level. The line voltage is nominal 24VDC, but can be any voltage between 18VDC to 30VDC.

Activating an output causes the **SW** terminal of the respective output to be connected to 0V via an on-board MOSFET transistor. Each output circuit is protected by a resettable fuse. This type of output can be used to control external relays, audio/ visual alarms, etc.

### 4. Lonworks Template Detail

Channel	Type	Network Variable	Signal -> Value		Signal -> Value	
CH1	4-20mA Input	nvoSENSOR0	4mA	655	20mA	3276
CH2		nvoSENSOR1				
CH3		nvoSENSOR2				
CH4		nvoSENSOR3				

Channel	Type	Network Variable	Signal -> Value		Signal -> Value	
I/O1	Digital Input	nvoDIn0	OPEN	ST_OFF	CLOSED	ST_ON
I/O2		nvoDIn1				

Channel	Type	Network Variable	Value -> Output		Value -> Output	
I/O1	Digital Output	nviDOut0	ST_OFF	Floating	ST_ON	Pulled low
I/O2		nviDOut1				

Line Voltage	Voltage input	nvoLV	LV = nvoLV x (30/4095)			
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### 5. Power Requirements

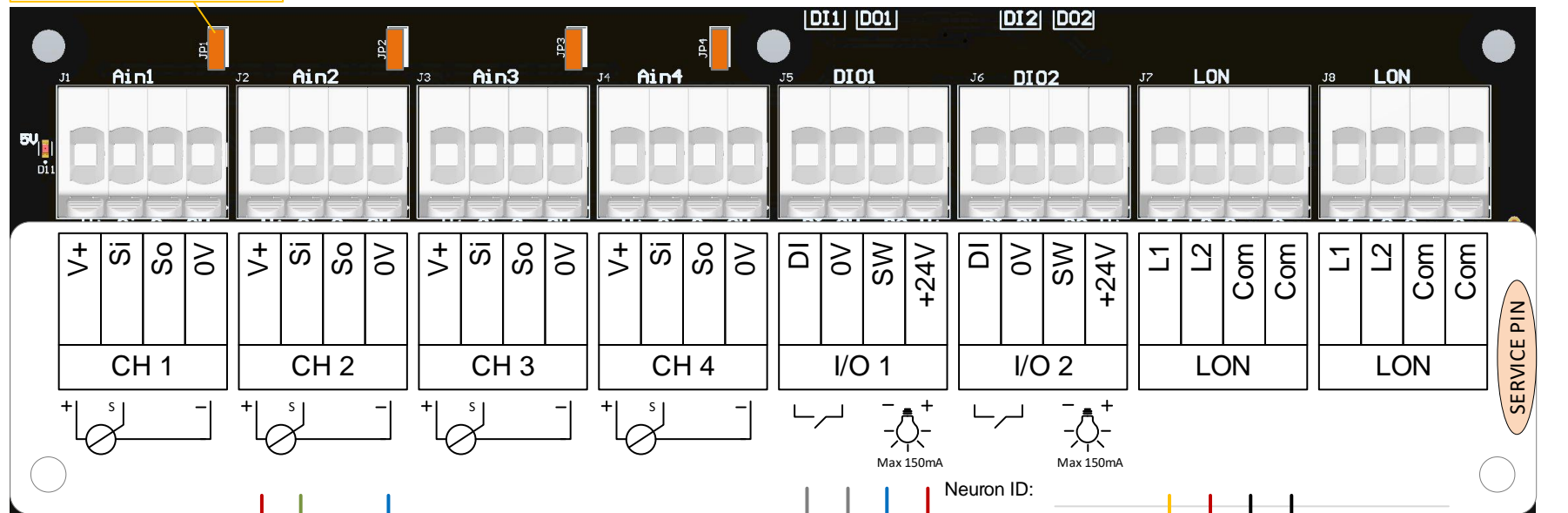
- Supply Voltage: 18 to 30VDC
- Current consumption: 12mA @ 24VDC, no external loads

### 6. Environmental Specifications

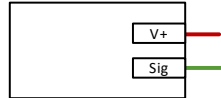
- Ingress protection: IP65
- Operating temperature: -10 to 55°C

# LC42 – 4 x Analog In 4-20mA 2 x Digital I/O

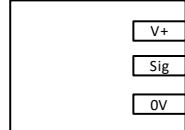
Remove jumper to enable  
signal pass-through



Sensor 2-wire 4-20mA

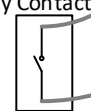


Sensor 3-wire 4-20mA



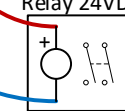
4mA: nvoSENSOR1 = 655  
20mA: nvoSENSOR1 = 3276

Dry Contact



Open: nvoDIn0 = ST\_OFF  
Closed: nvoDIn0 = ST\_ON  
Opto-isolated Input  
LED DI1: ON when contact closed

Relay 24VDC



nviDOut0 = ST\_OFF: Relay OFF  
nviDIOut0 = ST\_ON: Relay ON  
Open Drain output at terminal SW  
LED DO1: ON when output active

Lonworks PL20 Network

