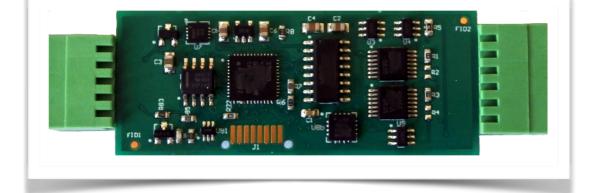


### **Strain Gauge Interface**

Single Channel Strain Gauge / Load Cell SDI-12 and RS485 Inf

#### Single Channel Strain Gauge / Load Cell SDI-12 and RS485 Interface Card



Features Support for 300 to External bridge of Precision Temper User Programmal SDI-12 & RS485 I Extended SDI-12 & 24 Bit ADC Analog Low Power - Minis

Engineering and Free Applications 2.5 mm Pluggable

The card has been has the ability to be

No special installati and sensor cables s front and back of th

### In<mark>stallation</mark>

Connect the NP-1-S possible to the sense IP-65 enclosure is a

#### **Free Applicati**

The card is supplied used for Configurat

The Q-LOG softwar http://keynes-control

Image is for marketing image below.

- Net werde Deut

#### model EP-1-STRAIN-24\_SD85

# Load Cell Interface Card

www.enertec.ch

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Pin-out Sensor Input Port

## Description

The EP-1-STRAIN-24-SD85 is an intelligent general purpose strain gauge interface card suitable for direct connection to strain gauges and load cells. The device can be connected to any suitable device supporting the SDI-12 network and is fully integrated into the free Q-LOG Data Display and Recording Software..

The card has an SDI-12 and RS485 Modbus port which are User selectable using industry standard configuration commands.

The EP-1-STRAIN-24-SD85 is User Programmable and can supply results in both raw or engineering unit format. A precision temperature sensor input is supplied for applications when compensation is required.

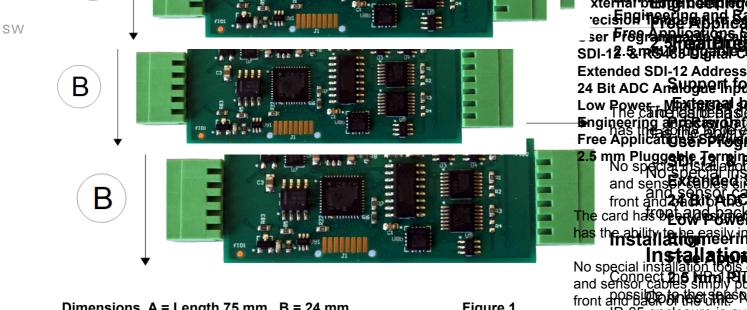
The sensor monitors the bridge excitation during the measurement and compensates automatically for any excitation variation during the data conversion process.

### Features

- Support for 300 to 4 K Ohm Gauges
- External bridge completion
- Precision Temperature Sensor
- User Defined User Programmable Scaling
   Factors
- SDI-12 & RS485 Digital Communications
- ModBus RTU Support
- Extended SDI-12 Address Support: 0-9, a-z
- 24 Bit ADC Analogue Input
- Low Power
- Minimised self heating effect
- Engineering and Raw Data Values
- Free Applications Software Q-LOG Software

# Application

- Quarter Bridge Circuits
- 3 Wire Half Bridges
- 2 Wire Half Bridges
- Full Bridges

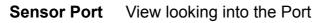


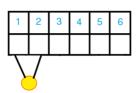
Dimensions A = Length 75 mm B = 24 mm

Figure 1

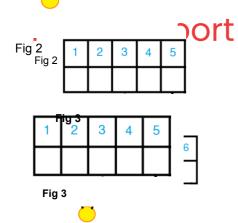
rt

# Sensor port











1	2	3	4	5

www.eneFige3c.ch



- + Thermistor
- 2 - Thermistor
- 3 Gnd - Vin
- 4 5 + Vin
- Excitation 6
- memisioi ₊4<sub>Vin</sub>- Vin 3
- -5⁄in +4.5 4

2

3

4

5

- 5 +@Pin=odt/Sensor Input Port 6 Gnd / 0V
  - 1 Gnd
  - 2 +12



- 5 SDHild out Sensor Input Port 1 Gnd
- Braun 2 +12
- 3 RS485 -
- 4 RS485 + 5 SDI-12
  - 6 Gnd / 0V

#### **Pin-out Sensor Input Port**

Gelb

- 1 Gnd
- 2 +12
- 3 RS485 -
- 4 RS485 +
- 5 SDI-12

#### The card is supplicities used forragensigoration ethan image below. The Q-LOG software can be

Thencesensoru

IP-65 possibiliteris and

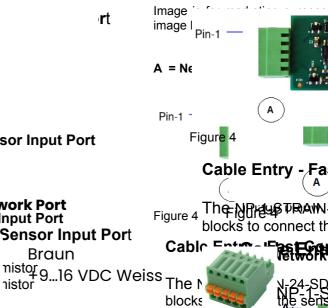
Connect the Has the abili possible to the sensor high the

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Installation 65 Free Ap

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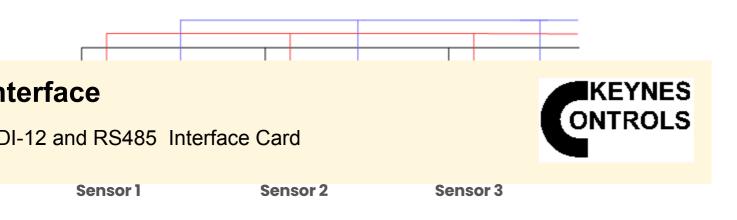


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# SDI-12 network

CE

The figure below demonstrates how to connect multiple EP-1-STRAIN-24-SD85 cards on a SDI-12 digital network. Each card must have a unique ID number assigned (Address) in order to operate correctly. The SDI-12 network uses a simple three wire low speed application. The specification limits the number of sensors to 10 The cards support enhanced addressing – so you get additional device address A-Z. In the field the maximum number of sensors is limited to 20 over 100 m cable length.



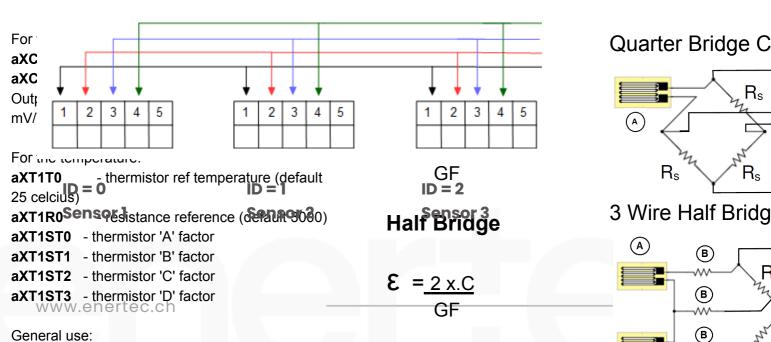
# RS 485 network

 The Single NP-1-STRAIN-24-SD85 sensor does not zero correct the bridge
 This

 and assumes the User will correct the error in post processing of the data.
 temp

 Mean value correction of the measurements is used for bridge zero correction.
 but

 assigned (Address) in order to operate correctly. The RS 485 network uses a four wire bus. The specification limits the number of sensors to 255.
 analysis



swiss sensor technology

# **Technical Specifications**

Power Supply	10-18 VDC
Current	2 mA at acquisition 10 uA standby
Input Range	+/- 70 mV Other ranges on request
SDI-12 Port	1 x Port, Version 1.03, 1200 B, 7 Data, N Parity, 1 Stop
RS485 Port	1 x Port, 1200 B, 7 Data, Even Parity, 1 Stop
Max update rate	1 sec.
Bridge exitation	0 - 4.5 VDC
Temp Sensor	Thermistor
Thermistor Type	3 K EC95 F type material 10K3A1 Betatherm
Calibration	Steinhart-Hart
Accuracy	0.05 Deg, -8 to 25 Deg C
Range	-30 to +60 Deg C
Number of channels	1
Gauge resistance	120 - 4K Ohm
Gauge factor	User defined
ADC	24 bit



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