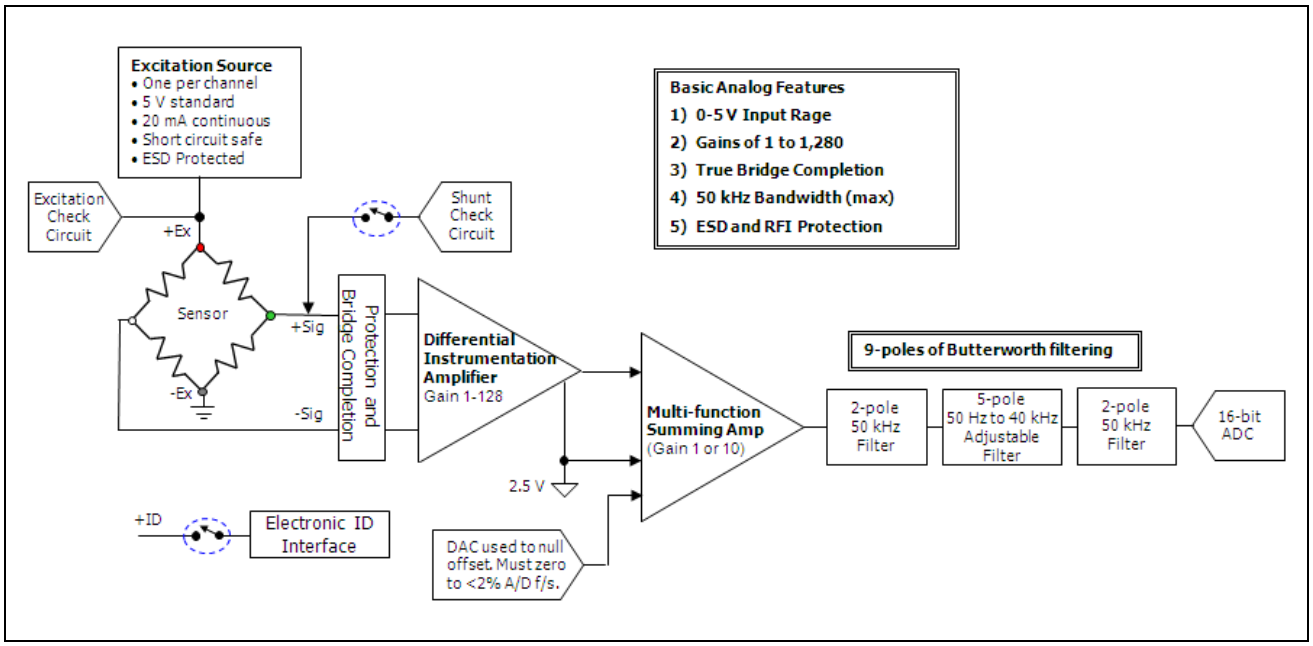
SLICE NANO/MICRO Bridge Sensor Connections

This document is a condensed overview of SLICE NANO/SLICE MICRO sensor implementation basics. It contains SLICE Bridge pin assignments and general implementation schematics for many commonly used sensors. For additional details and product specifics, please see www.dtsweb.com or the SLICE User's Manual.



SLICE Bridge Sensor Interface

The schematic above outlines the general SLICE Bridge sensor interface. Specific implementation schematics begin on page 3 for the following sensor types:

- 4-wire bridge,
- 3-wire strain gage,
- 2-wire strain gage,
- switch closure,
- contact resistance,
- signal generator with floating output,
- signal generator with grounded output,
- Fluke 80TK, and
- large differential voltages.

If you need assistance, the best way to contact a DTS support engineer is to e-mail support@dtsweb.com. Please provide the sensor manufacturer and model if known.

SLICE NANO/MICRO
Channels 1, 2 and 3

(looking into the connector)

Mating conn: DTS P/N 80000-04019
Omnetics P/N A18091-001

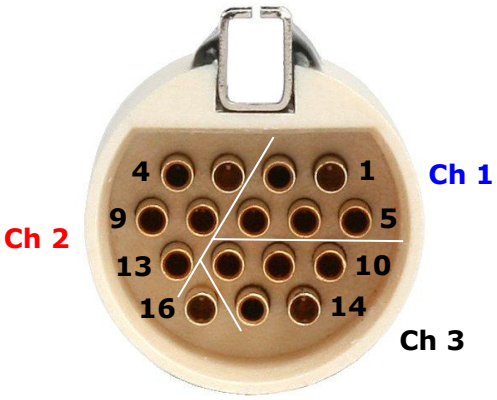
Conn + backshell: DTS P/N 13000-30310

Conn + backshell + ID:
DTS P/N 13000-30120

Pin	Function
1	+ Sig
2	- Sig
3	+ Ex
4	+ ID
5*	- Ex
6*	- ID
7*	Shield

* Pins 5, 6 and 7 are common

SLICE NANO
Channels 1-3



(looking into the connector)

Mating conn: DTS P/N 80000-14031
Omnetics P/N A22038-001

Conn + backshell: DTS P/N 13000-30320

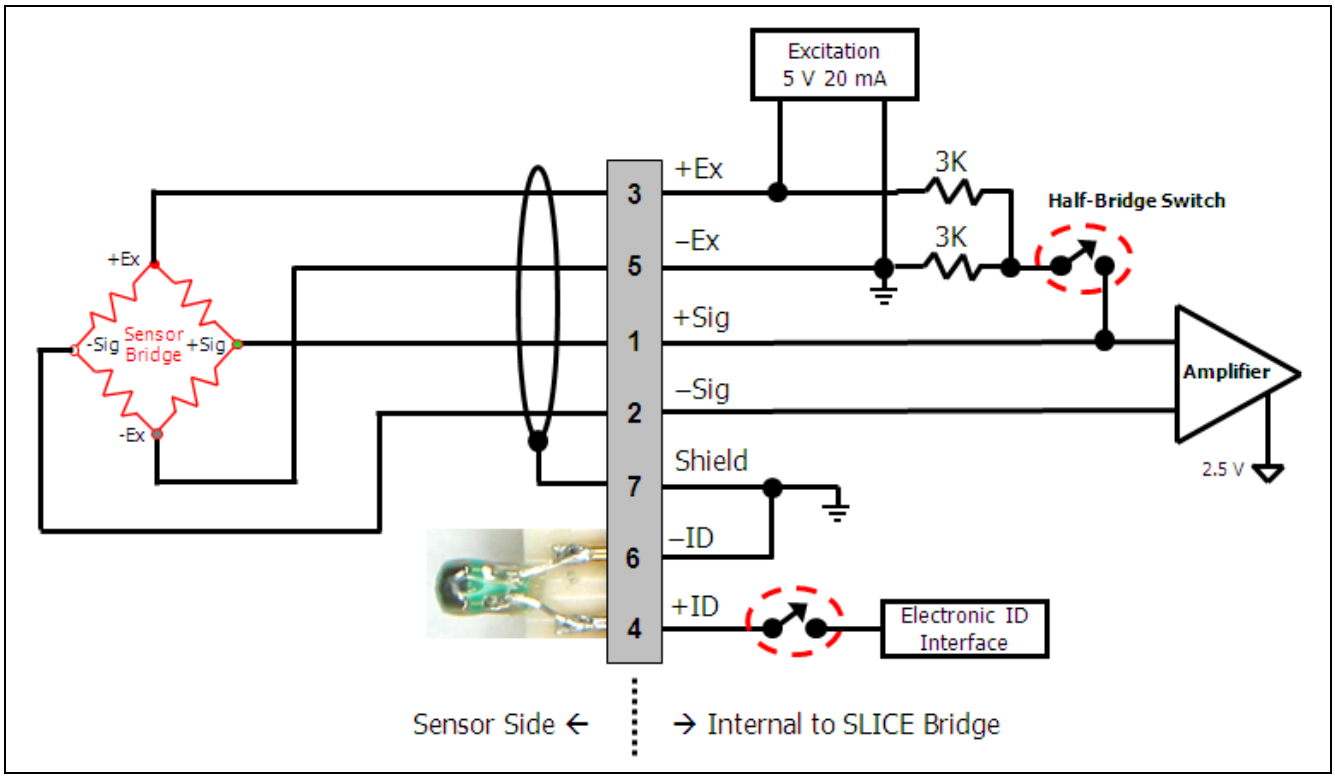
Conn + backshell + 3 IDs:
DTS P/N 13000-30140

Pin	Function
1	+ Sig (Ch 1)
2	+ ID (Ch 1)
3	- Sig (Ch 2)
4	+ Sig (Ch 2)
5	- Sig (Ch 1)
6	+ Ex (Ch 1)
7	- Ex (Ch 1)
8	+ Ex (Ch 2)
9	+ ID (Ch 2)
10	+ Sig (Ch 3)
11	+ Ex (Ch 3)
12	- Ex (Ch 3)
13	- Ex (Ch 2)
14	- Sig (Ch 3)
15	+ ID (Ch 3)
16	- ID (Ch 1, 2, 3)/Shield

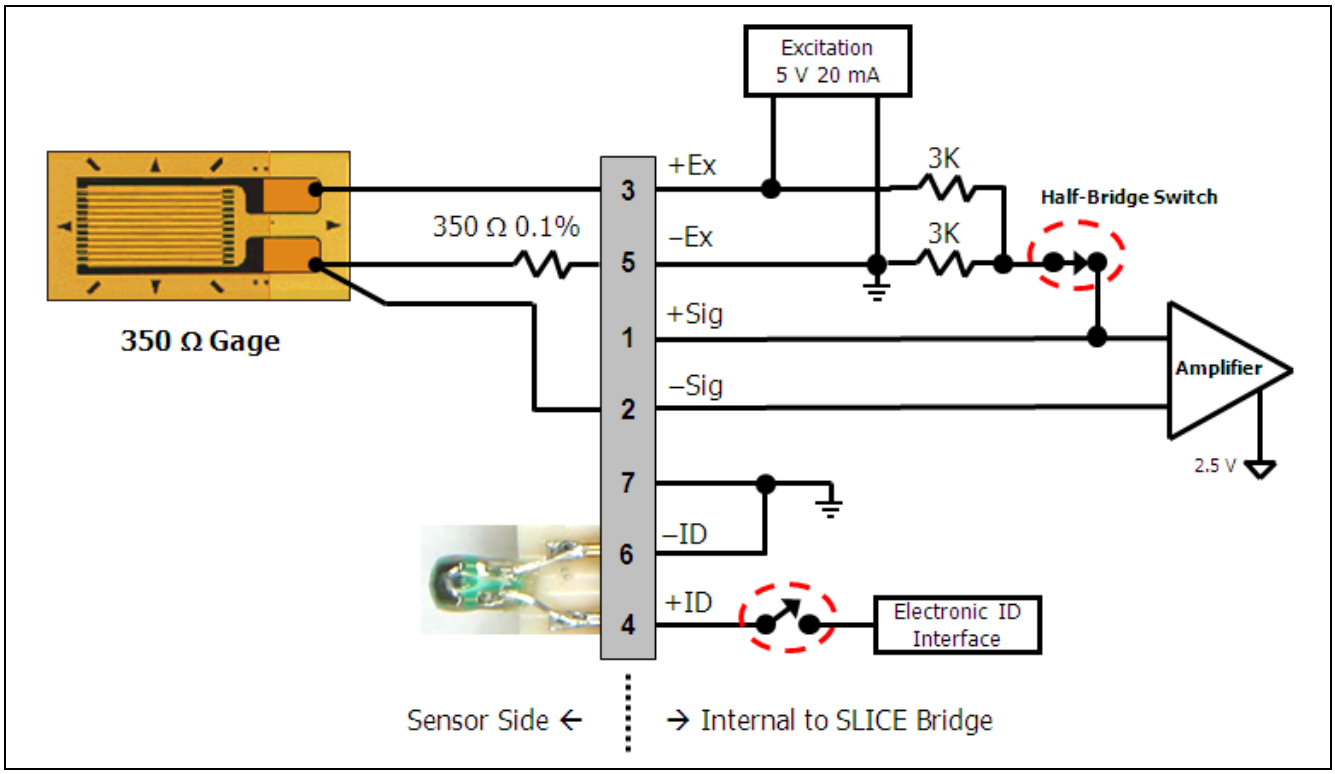
Accessories:

22005-00001: Microcard ID, DS2401X1
22006-00001: Microcard ID, DS2401X1 + 1/2 br
22007-00001: Microcard ID, DS2431

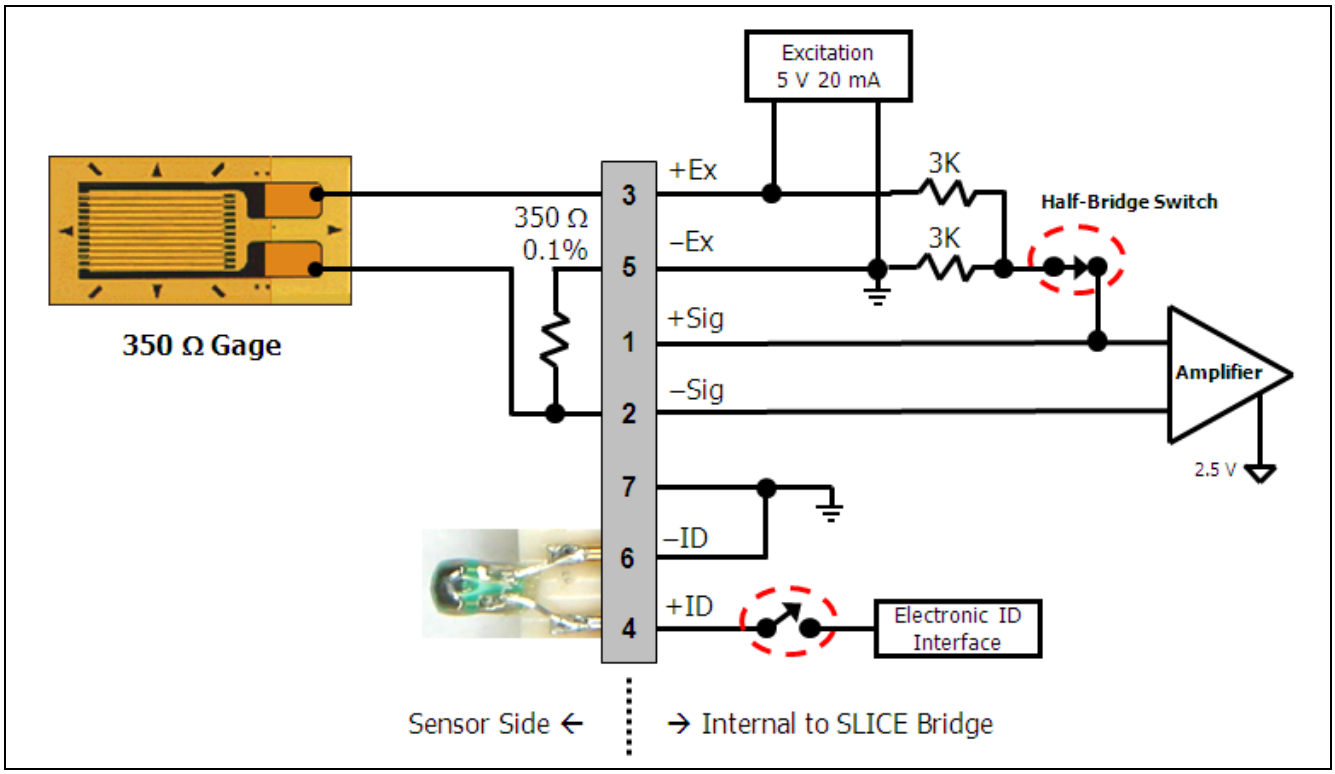
89100-1381A: Backshell, Omnetics; 7-pin (± ID)
89100-14090: Backshell, Omnetics; 16-pin (for 3 IDs)
89100-13850: Backshell, Omnetics; 16-pin (no IDs)



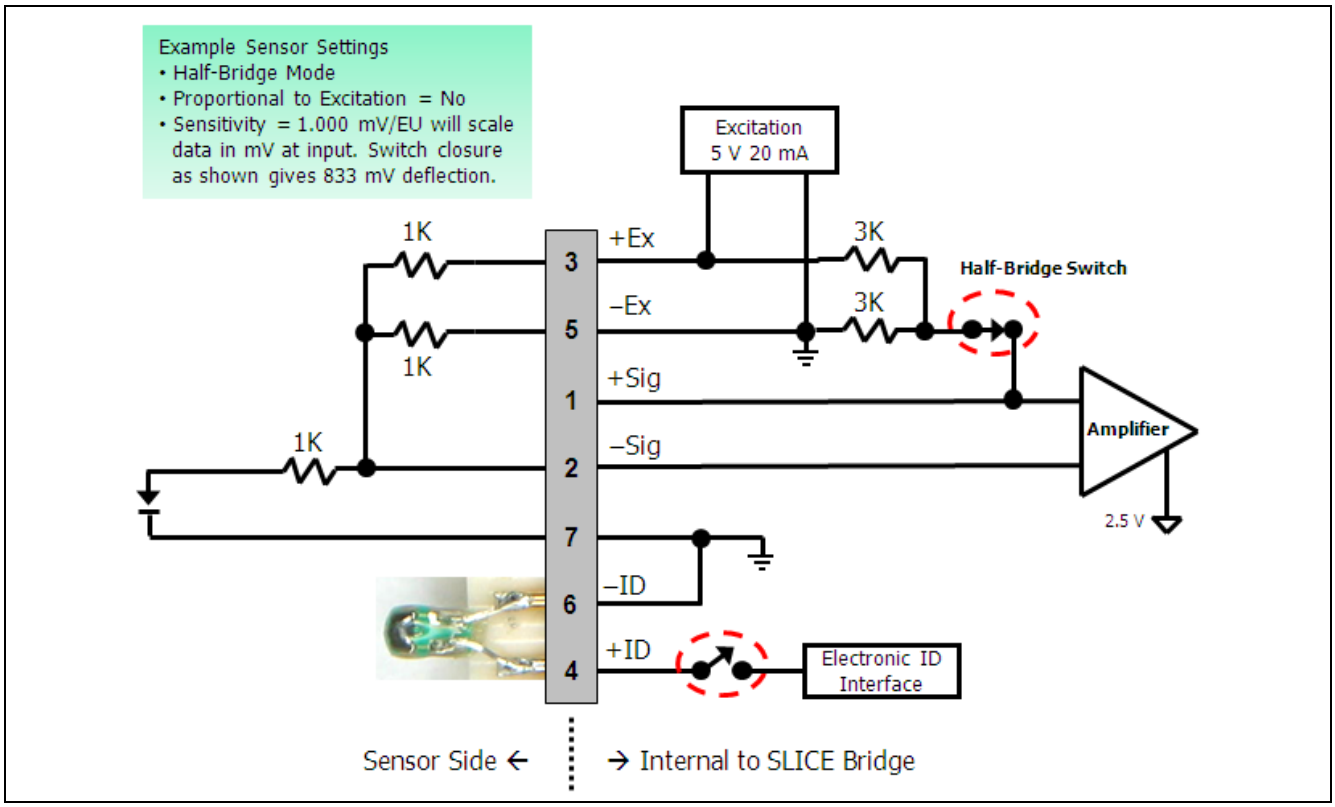
Standard 4-wire Bridge Connection



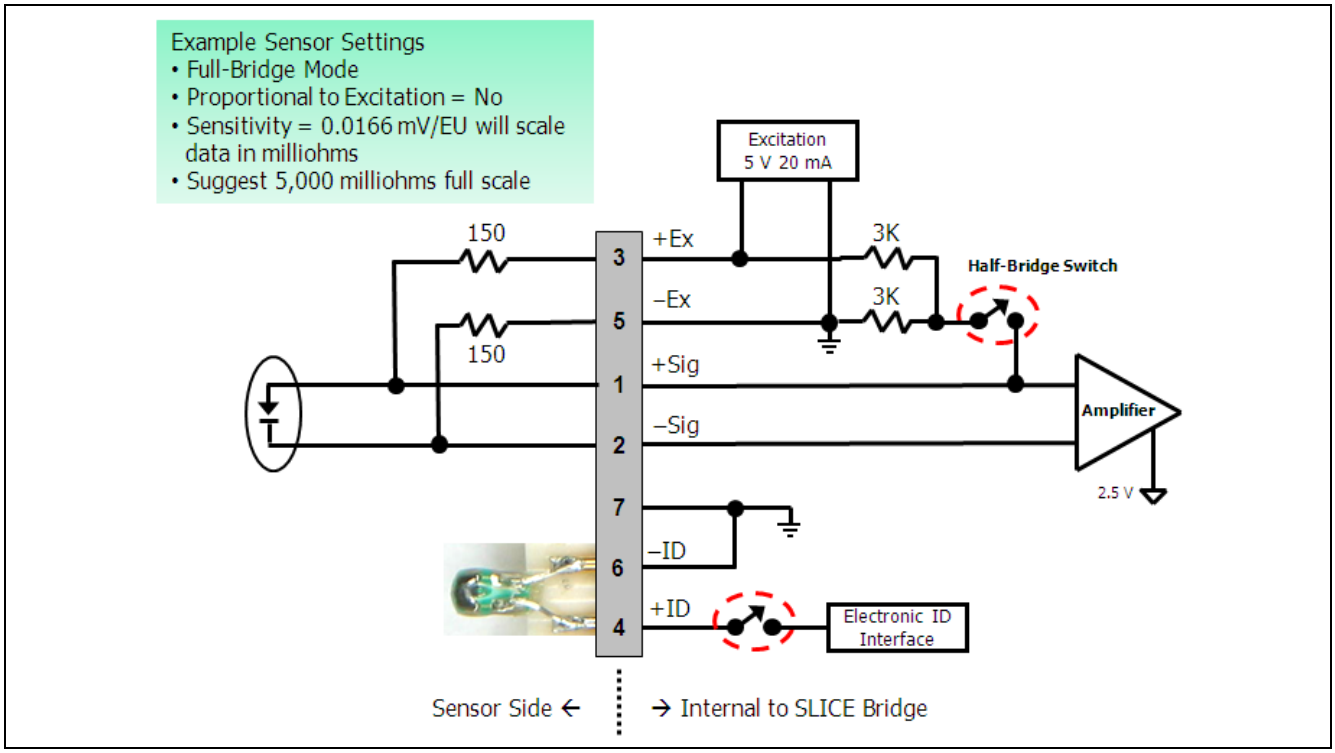
3-wire Strain Gage Connection



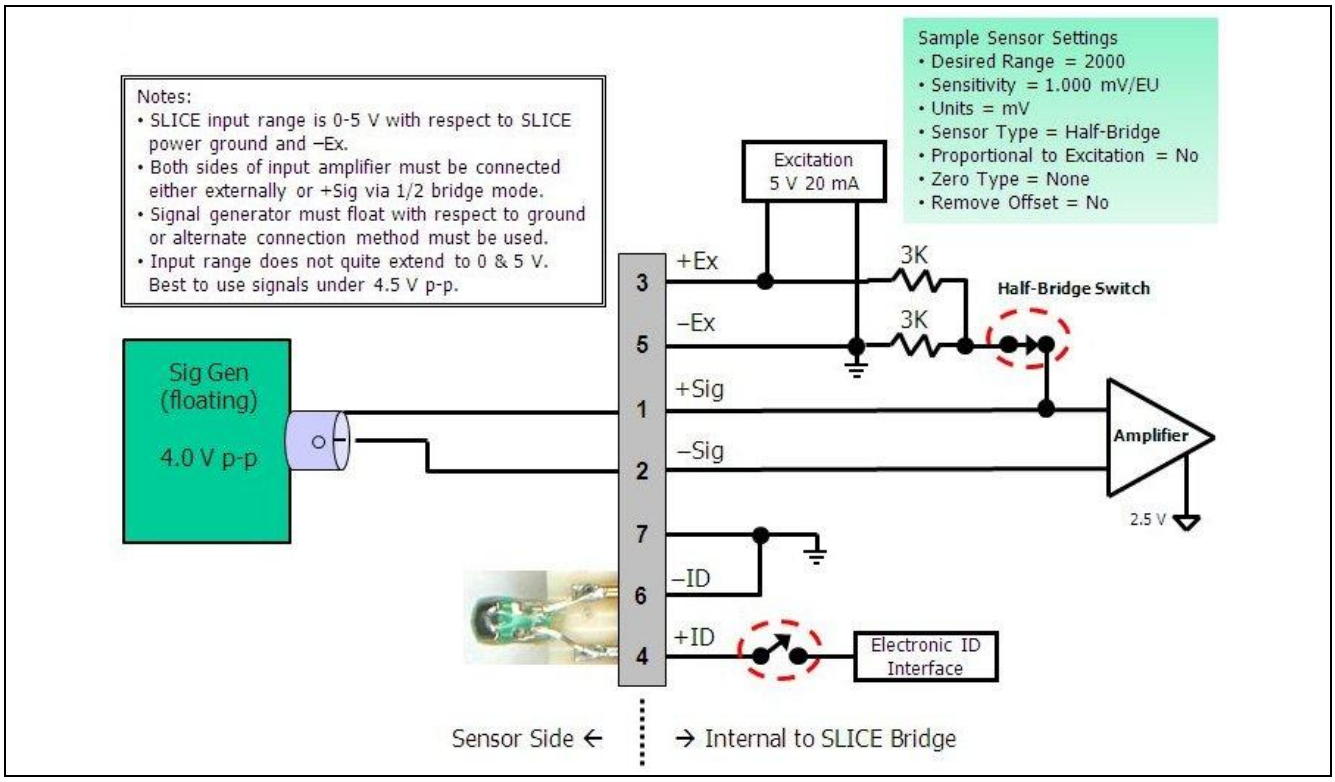
2-wire Strain Gage Connection



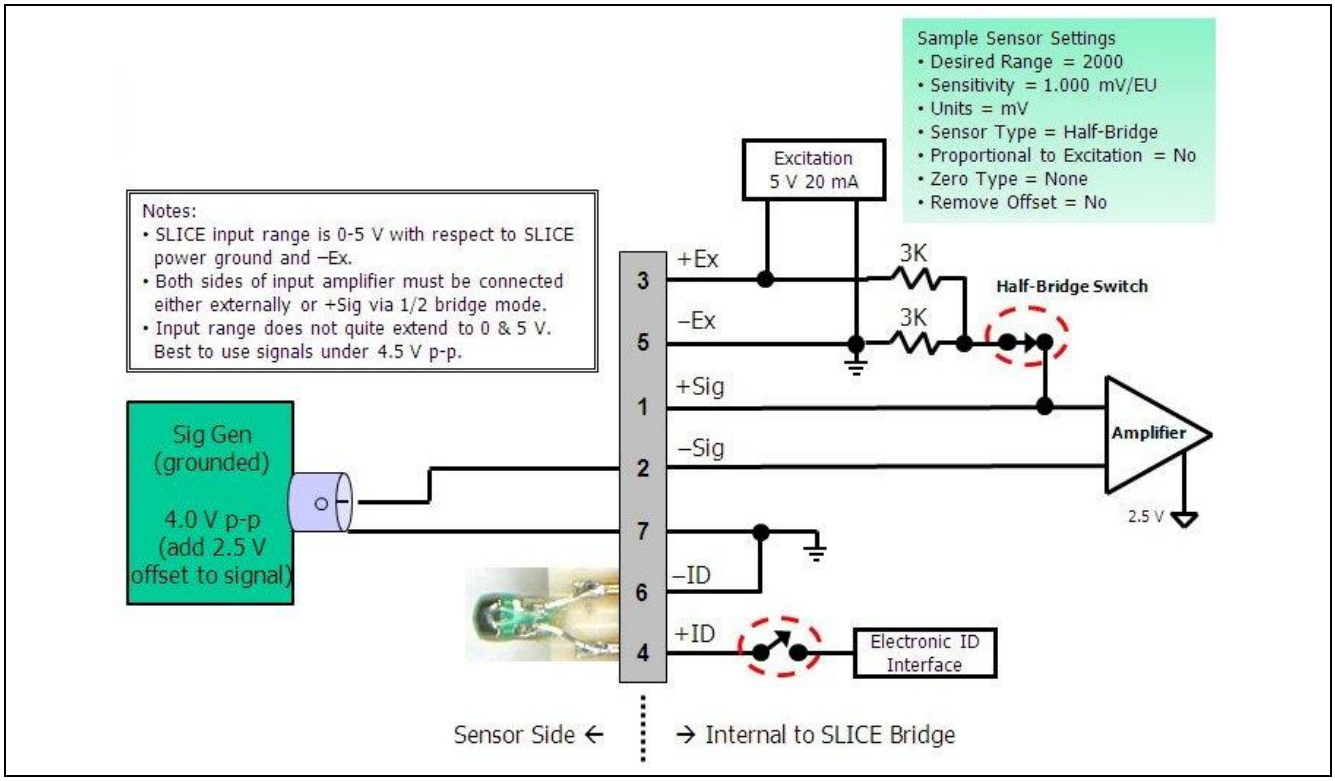
Switch Closure



Contact Resistance Test



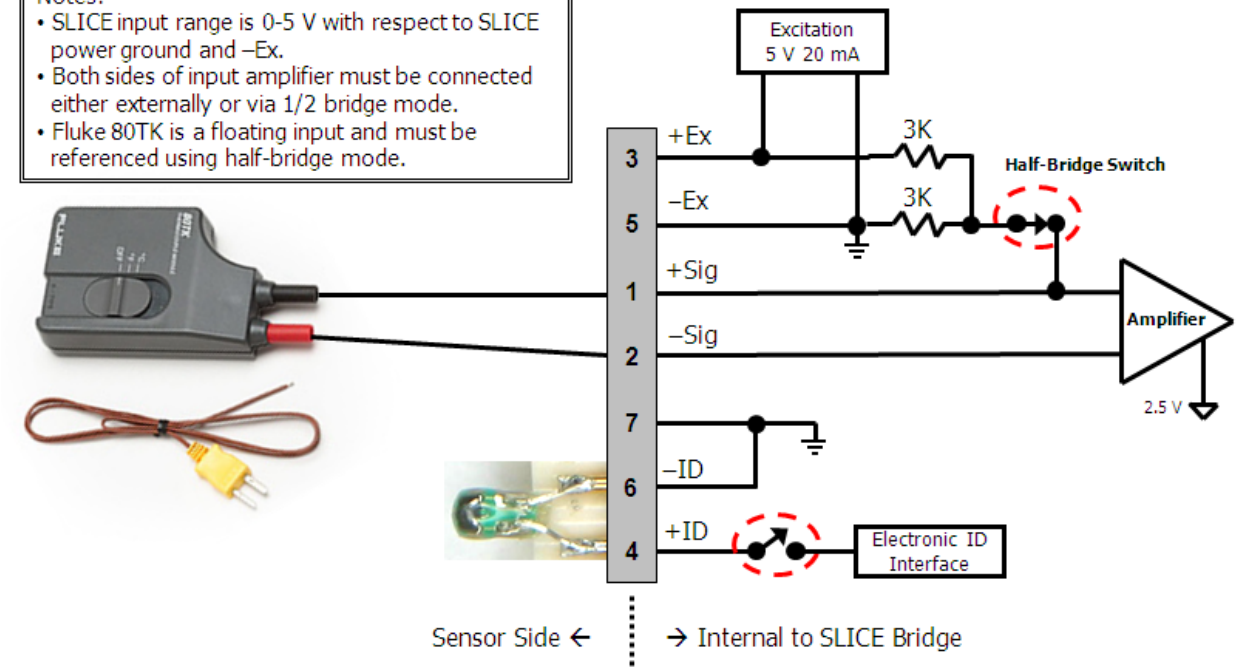
Signal Generator with Floating Output



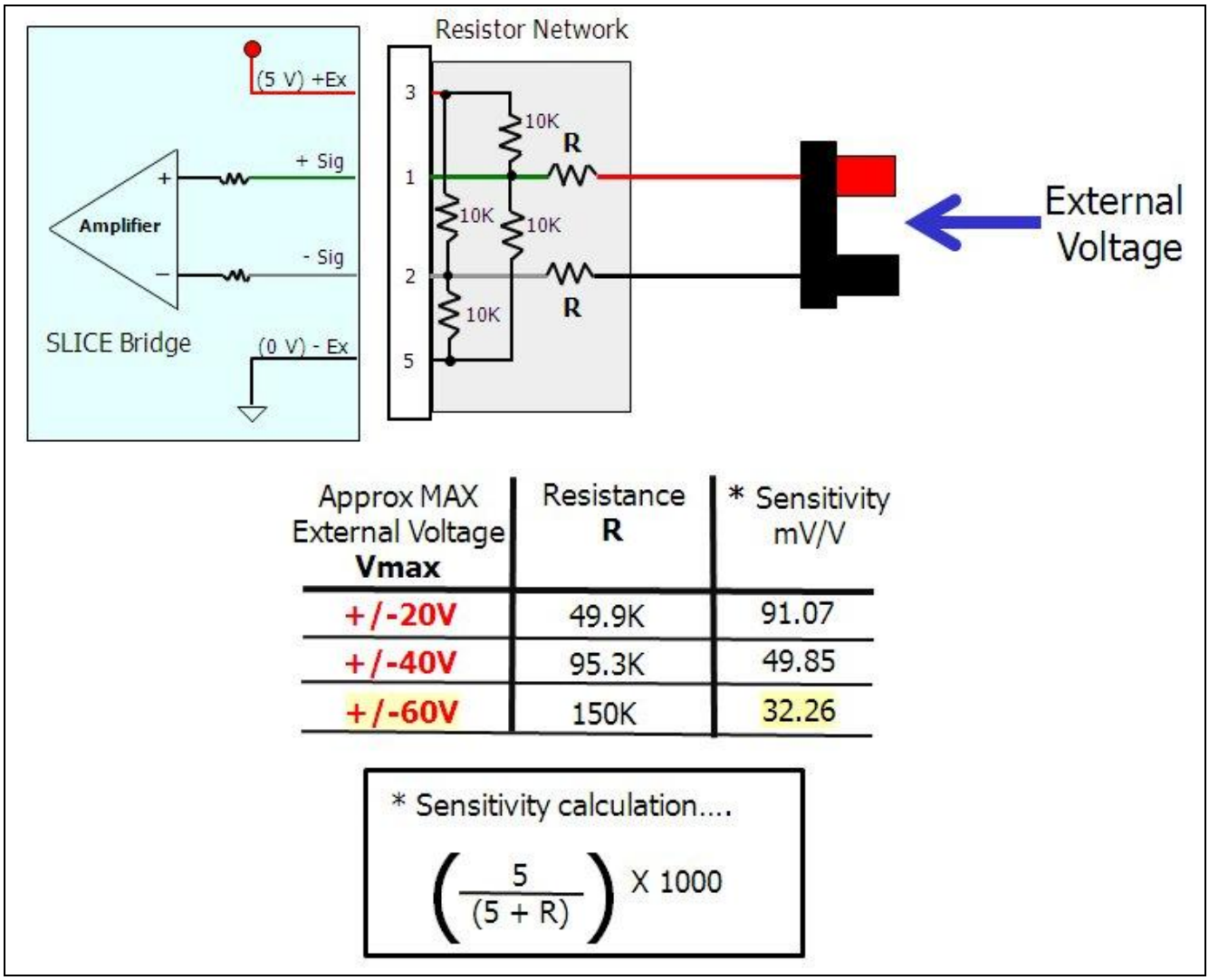
Signal Generator with Grounded Output

Sample Sensor Settings
- Desired Range = 100
- Sensitivity = 10.00 mV/EU
- Units = Deg. C, Deg. F
- Sensor Type = Half-Bridge
- Proportional to Excitation = No
- Zero Type = None
- Remove Offset = No

Notes:
- SLICE input range is 0-5 V with respect to SLICE power ground and –Ex.
- Both sides of input amplifier must be connected either externally or via 1/2 bridge mode.
- Fluke 80TK is a floating input and must be referenced using half-bridge mode.



Fluke 80TK



Approx MAX External Voltage **Vmax**	Resistance **R**	* Sensitivity mV/V
+/-20V	49.9K	91.07
+/-40V	95.3K	49.85
+/-60V	150K	32.26

* Sensitivity calculation....

$$\left(\frac{5}{(5+R)}\right) \times 1000$$

Measuring Large Differential Voltages

DTS provides cables to support the above voltage ranges. Connectorized options are available. Please contact DTS for further information.

Accessories:
15010-20000: Cable, Range Expander (20 V, all pigtail term)
15010-40000: Cable, Range Expander (40 V, all pigtail term)
15010-60000: Cable, Range Expander (60 V, all pigtail term)