



RANGE SELECTION ON THE API 4059 G

1. Set Switch "C" for desired Excitation Voltage.
2. Set Switches "B", "D", "E" for desired Input/Output ranges as per matrix listed below.
3. Set Switch "A" for Voltage (V) or Current (I) Output as required.
4. Set Zero/Span controls.
5. Set Test Range Level control (if desired), by depressing Test Switch



		INPUT RANGES													
		0-5mV	0-10mV	0-20mV	0-25mV	0-30mV	0-40mV	0-50mV	0-100mV	0-200mV	0-250mV	0-300mV	0-400mV	+/-10mV	+/-20mV
O U T P U T R A N G E S	Switch ID	BDE	BDE	BDE	BDE	BDE	BDE	BDE	BDE	BDE	BDE	BDE	BDE	BDE	BDE
	0-1V	002	00A	003	006	00E	00B	000	008	001	004	00C	009	033	03B
	0-2V	802	80A	803	806	80E	80B	800	808	801	804	80C	809	833	83B
	0-4V	102	10A	103	106	10E	10B	100	108	101	104	10C	109	133	13B
	1-5V	602	60A	603	606	60E	60B	600	608	601	604	60C	609	633	63B
	0-5V	902	90A	903	906	90E	90B	900	908	901	904	90C	909	933	93B
	0-8V	202	20A	203	206	20E	20B	200	208	201	204	20C	209	233	23B
	2-10V	702	70A	703	706	70E	70B	700	708	701	704	70C	709	733	73B
	0-10V	302	30A	303	306	30E	30B	300	308	301	304	30C	309	333	33B
	+/-5V	402	40A	403	406	40E	40B	400	408	401	404	40C	409	433	43B
	+/-10V	502	50A	503	506	50E	50B	500	508	501	504	50C	509	533	53B
	0-2mA	007	00A	003	006	00E	00B	000	008	001	004	00C	009	033	03B
	2-10mA	602	60A	603	606	60E	60B	600	608	601	604	60C	609	633	63B
	0-10mA	902	90A	903	906	90E	90B	900	908	901	904	90C	909	933	93B
	0-16mA	202	20A	203	206	20E	20B	200	208	201	204	20C	209	233	23B
4-20mA	702	70A	703	706	70E	70B	700	708	701	704	70C	709	733	73B	
0-20mA	302	30A	303	306	30E	30B	300	308	301	304	30C	309	333	33B	

CALIBRATION

To set up the Api 4059G, first examine your transducer to determine what excitation voltage to use and select that voltage using Switch C. The excitation fine adjust may be used to precisely trim this voltage, if desired. Note that if your bridge is a five- or six-lead bridge, (which has a "sense" lead), you will want to use this lead to allow the 4059G to compensate for leadwire resistance effects. For four-wire bridges, it is best to connect the "sense" terminal on the 4059G to the (+) excitation pin. It is not necessary to do this; however, the final "trim" adjust should be done after all bridge connections are made.

Next, determine how much full-scale output in millivolts the load cell will produce at full load. Look in the setup table on the side of the unit for the setup code for your desired input/output ranges and set Switches B, D, and E according to the table. Switch A must be set to select voltage or current output, as required. After all switches are set, the zero/span controls must be set to precisely adjust the module output; this can be done most easily with a suitable calibration device or simulator, or if one is unavailable, in actual use with dummy loads or weights.

Finally the Test Cal control should be set with the Test button pressed to obtain the desired Test level.

Using the "Offset" Switch -- The versatility of the Api 4059G is enhanced by the use of the "Offset" switch (Switch D). This switch allows cancelling or "taring" of non-zero deadweights or other sensor offsets. In many cases, the desired "zero", or low

end, of the output span may not coincide with zero output from the sensor. For example, a user may want a 0 to 10VDC output from the transmitter when a 10 to 100 lb's load is placed on a platform. In this case, the 10 lb's "deadweight" results in a non-zero output from the sensor when the output is required to be zero. Or certain low-output sensors (e.g., less than 1mV/V) may have zero offsets large enough that the "zero" control may not produce the desired zero output. In these cases, the Offset switch setting may be changed easily from the table values to realign the zero output by observing the following;

a. Switch D (Offset) is the only switch needed to correct zero offsets; the other switch settings are made per the standard procedure.

b. Switch D does not interact with any other switch. Its only purpose is to adjust or "cancel" effects of the low end of the input range NOT corresponding nominally to 0mV. Setting this switch to "0" results in no offset.

c. To RAISE the output zero, rotate Switch D progressively UP (clockwise) from "1" thru "7", until the "zero" control can be set for your application. This "elevation" of the output is useful for bipolar input ranges (e.g., +/-10mV).

d. To LOWER the output zero, rotate Switch D UP (clockwise) from "9" thru "F", until the "zero" control can be set for your application. This "suppression" of the output is useful for elevated input ranges (e.g., 10-20mV).