

SPECTEC

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4016 DIGITAL ANALOG CONVERTER



RF TYPE
PA-10/6

PRODUCT DESCRIPTION

The PA 10 D/A converter has been configured to fit a compact "Y3" explosion proof enclosure. Input and output configurations are field selectable to fit most applications.

ZERO and SPAN adjustments make it easy to calibrate to almost any measurement range, with little interaction between the adjustments. All inputs and outputs are protected against shorts to supply or ground, and reversed supply leads to 50 Vdc max.

The PA-10 D/A converter can be used with either 2-wire or 3-wire power supply configuration; refer to the diagrams on the next page.

SPECIFICATIONS

Vs, Supply Voltage:	12-30 Vdc
Input Signal Current:	5.0 mA
Input Carrier Supply Current:	15.0 mA
Output Signal & Carrier Current:	Std. 3-wire 20.0 mA 2-wire 4.0 mA
Frequency Input Range:	F Hi: 1100 Hz – 5 kHz F Lo: 115 Hz – 1100 Hz
Input Sensitivity:	Standard 50 mVpp
Output Protection:	Short to +VDC or Common Continuous
Output Setting Time:	Full scale change to 95% of final value 180mS.
Output Ripple:	5 mVp-p
Linearity:	0.15% typ.
Repeatability:	±.05%
Temperature Coefficient:	25° to 40°C, 0.13% / °C, 13 mV / °C on 10 V range
Operating Temp. Range:	-40 to 70°C (-40 to 160°F)
ZERO/SPAN Adjustment Interaction:	< 1%
Terminal Connections:	1. Converter Supply Power 2. Common 3. Signal Out 4. Balanced Carrier Pick-Up Input 5. Balanced Carrier Pick-Up Input 6. Carrier Supply Voltage

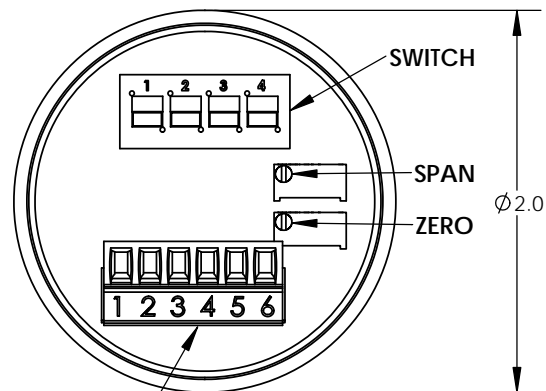
Wiring Options: (See Page Two)

CE-Compliance: EN55011, EN50022-2

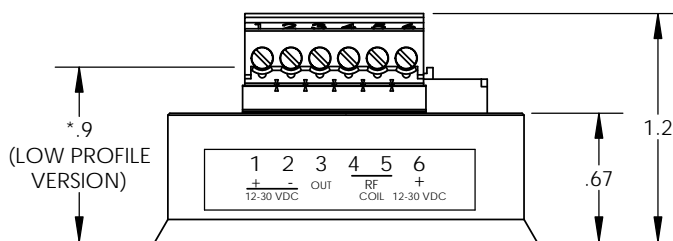
PART NUMBERS

4016-20:	RF4, HS Type, .33 mH Pickup
4016-50:	RF10, HS Type, 1.00 mH Pickup
Low Profile*:	Add "LP" to the end of the above PN. *Low Profile terminal block is not removable.

Explosion Proof Junction Boxes: 90010-03: Y3, CL1, DIV1, Enclosure
 90012-03: ELBY 100, CL1, DIV1, Enclosure
 For other Enclosure & Adapters see spec. 4001



REMOVABLE PLUG-IN TERMINAL BLOCK (STANDARD VERSION ONLY)



Switch Positions				
	Position #1	Position #2	Position #3	Position #4
** <input type="checkbox"/>	CURRENT MODE	10-50 mA	0-5 V	F High
** <input type="checkbox"/>	VOLTAGE MODE	4-20 mA	0-10 V	F Low

** NOTE: Black Box indicates rocker switch high side.

VOLTAGE MEASUREMENT SPE		
	0 - 5 V RANGE	0 - 10 V RANGE
Vout min, (Freq. input = 0 Hz) at full scale max freq. cal.	5.1 mV	10.5 mV
Vout min at full scale min freq. cal.	21 mV	43 mV
Vout max. at Vsupply = +12 VDC	6.8 V	11.3 V
Vout max. at Vsupply = +24 VDC	6.8 V	13.7 V
Minimum Load Resistance	50 Ω, 1/2W	100 Ω, 1 W
Maximum Load Resistance	Open	Open

CURRENT MEASUREMENT SPEC		
3 WIRE OUTPUT VERSION	4-20 mA Range	10-50 mA Range
Minimum Output Current	0.07 mA	0.19 mA
Maximum Output Current (Full Scale Min. Cal., Zero Cal. set to 4 mA and 10 mA)	24.1 mA	61.2 mA
Load Resistance = $\frac{V+ - 6V}{\text{Full Scale Output}}$		
if V+ = 24 V	<300Ω	<120Ω
if V+ = 12 V	<900Ω	<360Ω
2 WIRE VERSION	3.85 mA	3.95 mA
Minimum Output Current	0	0

4016, PA-10/6, RF TYPE: WIRING OPTIONS

A) VOLTAGE MEASUREMENT 1 (3 wire)

SWITCH POSITIONS:

RANGE: 0-5 V or 0-10 V

PROGRAM: Voltage

FREQ.: F High or F Low

WIRE POSITIONS:

1 - V+ & JUMPER

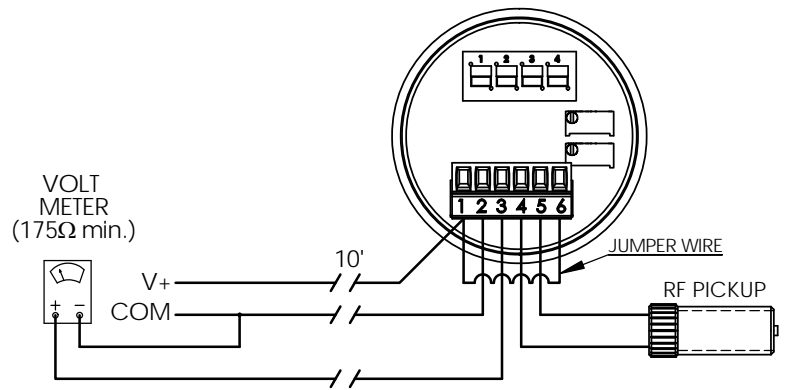
2 - COM

3 - METER POS.

4 - RF PICKUP

5 - RF PICKUP

6 - JUMPER FROM #1



B) VOLTAGE MEASUREMENT 2 (3 wire)

FOR USE WITH LONG WIRES RUNS
RESISTANT TO LINE LOSSES & EMI

SWITCH POSITIONS:

RANGE: 50 mA for 0-10 V
20 mA for 0-5 V

PROGRAM: C

FREQ.: F High or F Low

WIRE POSITIONS:

1 - V+

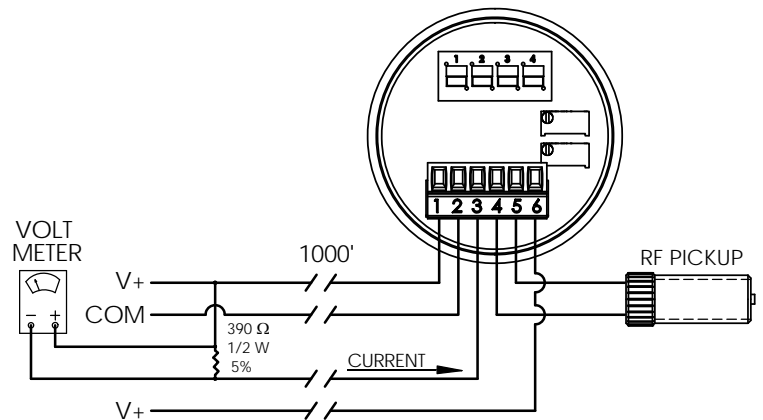
2 - COM

3 - METER NEG.

4 - RF PICKUP

5 - RF PICKUP

6 - V+



C) CURRENT MEASUREMENT 1 (2 wire)

SWITCH POSITIONS:

RANGE: 10-50 mA or
4-20 mA

PROGRAM: C

FREQ.: F High or F Low

WIRE POSITIONS:

1 - METER NEG. & JUMPER

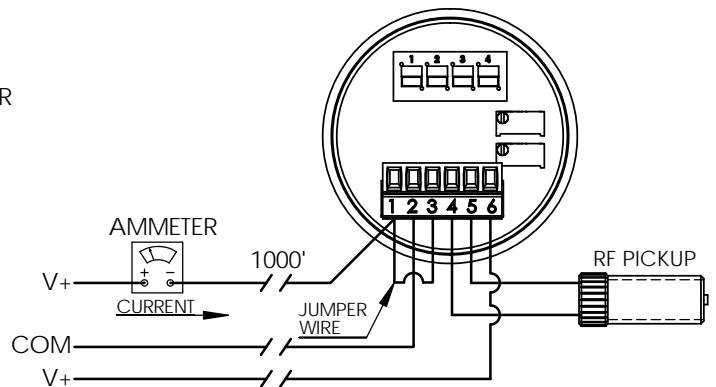
2 - COM

3 - JUMPER FROM #1

4 - RF PICKUP

5 - RF PICKUP

6 - V+



D) CURRENT MEASUREMENT 2 (3 wire)

SWITCH POSITIONS:

RANGE: 0-50 mA or
0-20 mA

PROGRAM: C

FREQ.: F High or F Low

WIRE POSITIONS:

1 - V+ & METER POS.

2 - COM

3 - METER NEG.

4 - RF PICKUP

5 - RF PICKUP

6 - V+

