

Installation Instructions

Size 25 Incremental Encoder, Bulletin 845F

IMPORTANT: SAVE THESE INSTRUCTIONS FOR FUTURE USE.

Specifications

Electrical	
Code Format	Incremental, 2 channels with zero index
Quadrature	90° ±22° Channel A leads B CCW
Symmetry	50% ±10%
Zero Index Channel	Gated 1/2 cycle
Power Requirements	Determined by catalog number: 5V DC ±5% @ 150mA maximum 8-24V DC @ 150mA maximum
Frequency Response	Data: 210 kHz Zero Index: 210 kHz
Operating Speed (Data)	(210 kHz x 60)/Pulses per revolution = RPM or 6000 RPM, whichever is lower
Resolution	Up to 5000 PPR on code disk
Output Drive Capability	PNP current source = 20mA NPN current sink = 20mA Differential line driver = ±20mA NPN open collector = 20mA

Mechanical	
Starting and Running Torque	2.5Ncm typical (3.5in-oz)
Moment of Inertia	27gcm ² (3.9 x 10 ⁻⁴ oz-in-sec ²)
Slew Speed	6000 RPM
Angular Shaft Misalignment	5° standard coupler, 10° high performance coupler
Parallel Shaft Misalignment	0.010in standard coupler, 0.020in high performance coupler
Coupling Axial Compliance	±0.030in standard coupler, ±0.060in high performance coupler
Coupling Bore Size	9.517mm (3/8in) or 6.4mm (1/4in) dia.

Environmental	
Housing	NEMA Type 4, IP66 (IEC 529)
Temperature	0°C to +60°C (+32°F to +140°F) — operating -25°C to +90°C (-13°F to +194°F) — storage
Humidity	98%, noncondensing
Shock	50g (11ms duration)
Vibration	20g (5 to 2000Hz)
Approximate Shipping Weight	0.91kg (2lbs)

Accessories

Description	Part Number
Pre-Wired Cables	845-CA-*-*
Mating Connectors	845-7P, 845-10P
Differential Encoder Buffer Board	845-BB



ATTENTION: The shielded cables, output devices, and power supplies must be properly grounded. All National Electric Code and applicable local codes and ordinances must be observed when wiring the system.

Selection

845F — S J G Z 1 4 FW Y 2 C
a b c d e f

a

Coupling Version	
Code	Description
B	Standard 1/4in Bore
E	Standard 3/8in Bore
F	High-Performance 1/4in Bore
G	High-Performance 3/8in Bore

b

Power Supply	
Code	Description
1	5V DC ±5%
2	8-24V DC Unregulated

c

Output Configuration	
Code	Description
2	PNP Current Source
3	NPN Current Sink
4	DLD 5V DC RS-422
5	NPN Open Collector 24V DC Max
6	DLD 8-24V DC

DLD = Differential Line Driver

e

Connection Options	
Code	Description
1	Axial Connector (End)
2	Radial Connector (Side)
A	Axial Cable (End)
R	Radial Cable (Side)

f

Connector/Cable Options	
Code	Description
Blank	Without Mating Connector
C	With Mating Connector
1	1m (3.28ft) Cable Length
5	5m (16.4ft) Cable Length
9	9m (29.52ft) Cable Length

d

Resolution	
Code	Description (PPR)
AG	1
AM	5
BG	10
CA	50
CB	60
CE	64
CF	80
CG	100
DB	120
DF	150
EB	180
CH	200
CJ	250
CC	254
CW	256
EG	300
CK	360
CL	400
CM	500
DW	512
EH	600
DG	720
DL	800
LG	900
CN	1000
FW	1024
EL	1200
CD	1250
RF	1280
CU	1472
EM	1500
FL	1600
CP	1800
DN	2000
CS	2048
HL	2400
CR	2500
CY	2540
LJ	2750
EN	3000
CT	3600
DR	5000

7-Pin Connector (ACS02E16S-1P (023) or equivalent)

Current Source, Current Sink, Open Collector Outputs

Pin	Function	Pin	Function
A	Channel A Output	E	—
B	Channel B Output	F	DC Return
C	Channel Z Output	G	Case Ground
D	DC+ Input	—	—

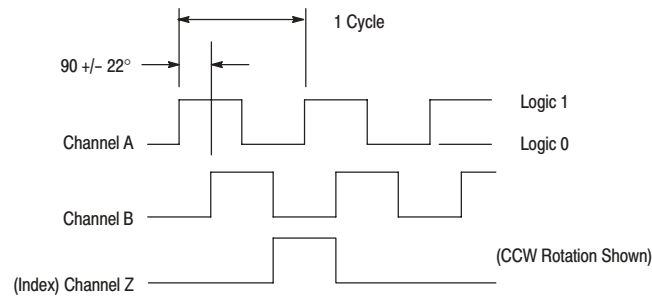
10-Pin Connector (ACS02E18-1P (023) or equivalent)

Differential Line-Driver Outputs

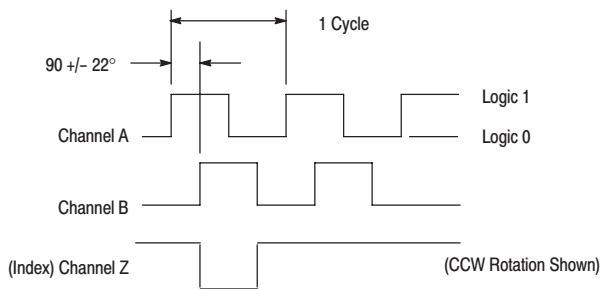
Pin	Function	Pin	Function
A	Channel A Output	F	DC Return
B	Channel B Output	G	Case Ground
C	Channel Z Output	H	Channel \bar{A} Output
D	DC+ Input	I	Channel \bar{B} Output
E	—	J	Channel \bar{Z} Output

① Pins D and E internally connected

Current Sink and Open Collector Output Waveform:

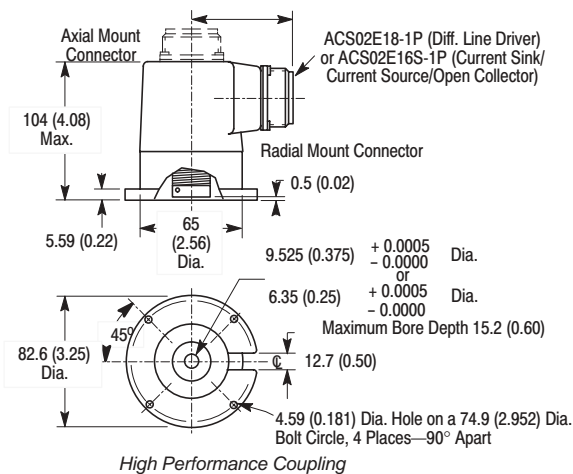


Current Source Output Waveform:



Dimensions—mm (inches)

73.91 (2.91) - ACS-02E18-1P
63 (2.48) - ACS02E16S-1P



High Performance Coupling

Cable

Current Source, Current Sink, Open Collector Outputs

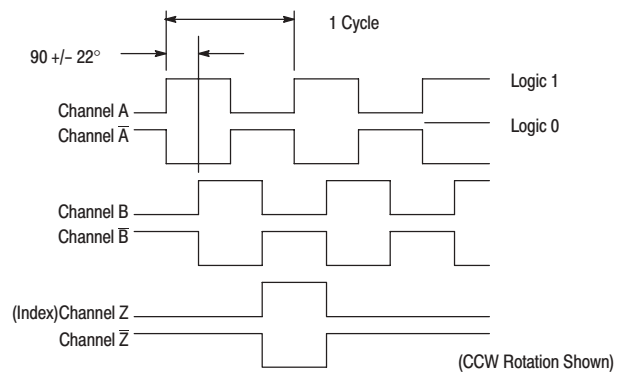
Wire Pair	Wire Color	Function
Red/Black	Red	DC+ Input
	Black	DC Return
White/Black	White	Channel A Output
	Black	Not Connected
Blue/Black	Blue	Channel B Output
	Black	Not Connected
Green/Black	Green	Channel Z Output
	Black	Not Connected

Cable

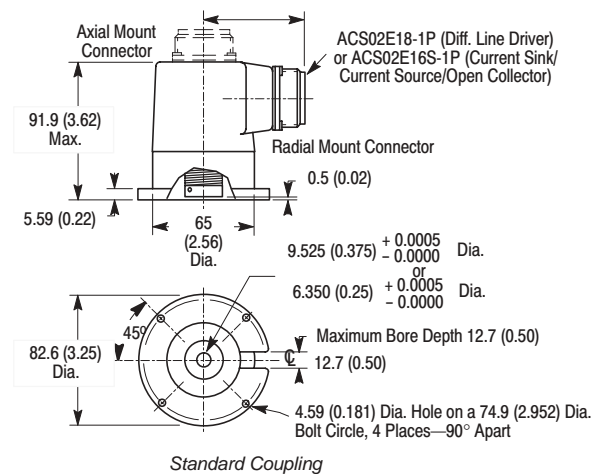
Differential Line Driver Outputs

Wire Pair	Wire Color	Function
Red/Black	Red	DC+ Input
	Black	DC Return
White/Black	White	Channel A Output
	Black	Channel \bar{A} Output
Blue/Black	Blue	Channel B Output
	Black	Channel \bar{B} Output
Green/Black	Green	Channel Z Output
	Black	Channel \bar{Z} Output

Differential Line Driver Output Waveform:



73.91 (2.91) - ACS-02E18-1P
63 (2.48) - ACS02E16S-1P



Standard Coupling