



Square Flange Mount
845H-SJDZ14CRY2



Specifications

Electrical	
Code Format	Incremental, 2 channels with zero index
Quadrature	90° ±22°; Channel A leads B CCW
Symmetry	50% ±10%
Zero Index Channel	1/2 cycle, gated to channel B
Power Requirements	Determined by catalog number: 5V DC ±5% @ 150mA maximum 8-24V DC @ 150mA maximum
Frequency Response	Data: 210kHz Zero index: 125kHz
Operating Speed (Data)	(210kHz x 60)/pulses per rev. = 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 & Running Torque	2.5Ncm typical [3.5in-oz]
Moment of Inertia	15gcm (2.1 x 10 ⁻⁴ oz-in-sec ²)
Slew Speed	6000 RPM
Shaft Loading (3/8" & 10mm Dia.)	Axial 89N [20lbs] (10lbs 5000 PPR); Radial 178N [40lbs] (20lbs 5000 PPR)
Shaft Size	6mm, 10mm, 6.4mm [1/4in] 9.517mm [3/8in] diameter
Environmental	
Housing	NEMA Type 4,13, 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 (4 to 2000Hz)
Approximate Ship Weight	0.91kg (2lbs)

Description

The Bulletin 845H optical incremental encoders electronically digitize shaft motion of a rotating element by converting mechanical motion to an electronic digital format. Incremental square waves are accumulated in a counter as position feedback. The encoder provides code disk resolutions up to 5000 pulses per revolution at a signal frequency response of 210 kHz.

The Bulletin 845H encoder is housed in a size 25, NEMA Type 4 and 13, IP66 (IEC 529), enclosure making it suitable for many of today's industrial environments.

Features

- Code disk resolution up to 5000 PPR
- Optional sink, source, open collector or differential line driver output configurations
- English and metric options
- Input reverse polarity protection
- CE marked for all applicable directives

Accessories

Description	Page Number
Flexible Couplings	R6-43
Measuring Wheels	R6-44
Servo Clamps	R6-44
Pre-Wired Cables	R6-45
Mating Connectors	R6-48
Mounting Plates	R6-48
Differential Encoder Buffer Board	R6-51

Bulletin 845H Incremental Encoders

Size 25, High Performance

Selection Guide

845H — S J **H** Z 1 4 CR Y 2 C
 a b c d e f g

a

Mounting Configuration ❶	
Code	Description
D	Square Flange
E	70mm Diameter Flange
F	90mm Diameter Flange
G	Metric Servo 48mm B.C.
H	English Servo
J	Metric Servo 42mm B.C.

b

Shaft Options ❶	
Code	Description
A	6mm Diameter
B	10mm Diameter
C	1/4in Diameter
Z	3/8in Diameter
K	6mm w/Flat
L	10mm w/Flat
M	1/4in w/Flat
N	3/8in w/Flat
P	3/8in w/Double Flat

❶ Standard catalog numbers consist of either English Mounting Configurations with English Shaft Options or Metric Mounting Configurations with Metric Shaft Options.

c

Power Supply	
Code	Description
1	5V DC \pm 5%
2	8–24V DC Unregulated

d

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

❷ DLD = Differential Line Driver

❸ External pull-up resistor required

❹ Can not be ordered with 5V DC power supply (code 1 above)

e

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

f

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

g

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

❺ These options not available with Connection Options code: "A" & "R."

❻ These options not available with Connection Options code: "1" & "2."

Electrical Connections

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

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	—	—

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

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

Differential Line-Driver Outputs

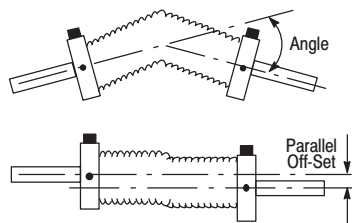
Pin	Function	Pin	Function
A	Channel A Output	F	DC Return
B	Channel B Output	G	Case Ground
C	Channel Z Output	H	Channel \bar{A} Output
D	DC+ Input	I	Channel \bar{B} Output
E	—	J	Channel \bar{Z} Output

● Pins D and E internally connected

Connector Type

Output Code	Output Type	Connector Type	Number of Pins	Dimension "B"
2	Current Source	ACS02E16S-1P (023)	7	63 (2.48)
3	Current Sink	ACS02E16S-1P (023)	7	63 (2.48)
4	Diff. Line Driver	ACS02E18-1P (023)	10	73.9 (2.91)
5	Open Collector	ACS02E16S-1P (023)	7	63 (2.48)

Flexible Shaft Couplings

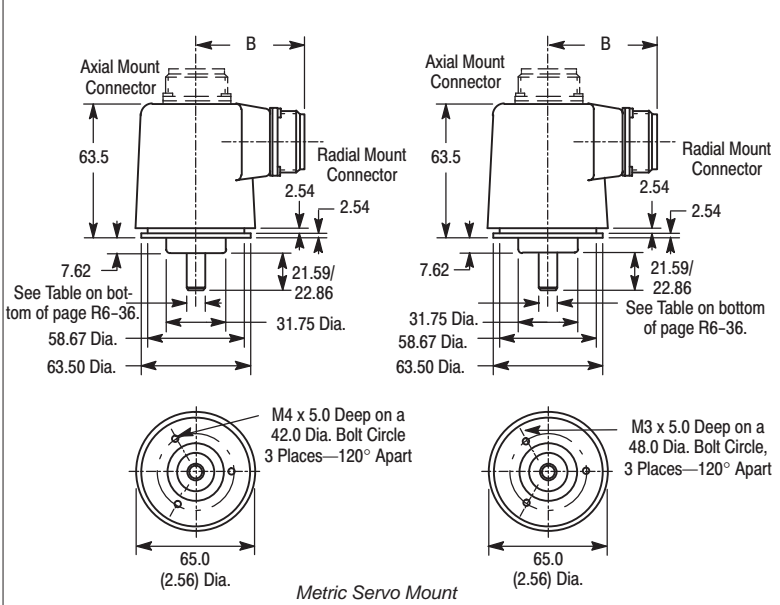
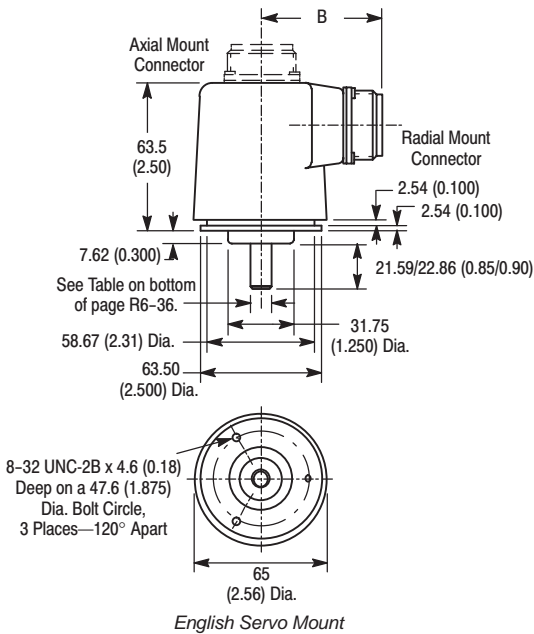
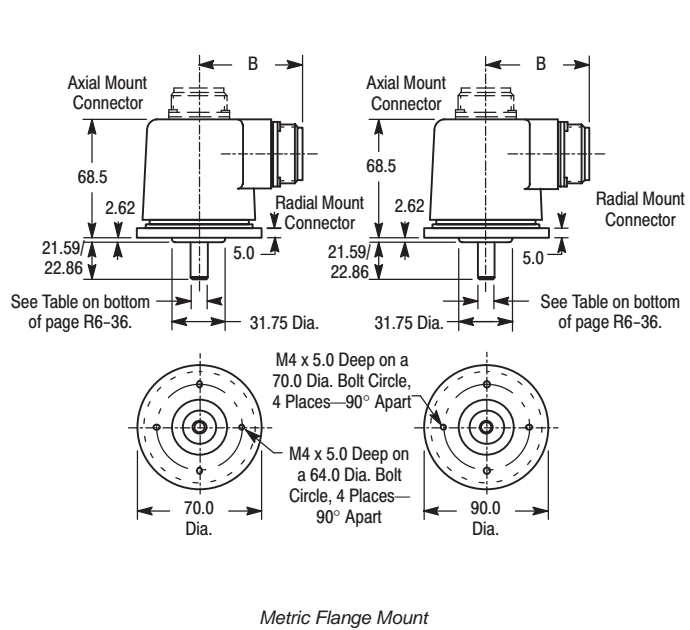
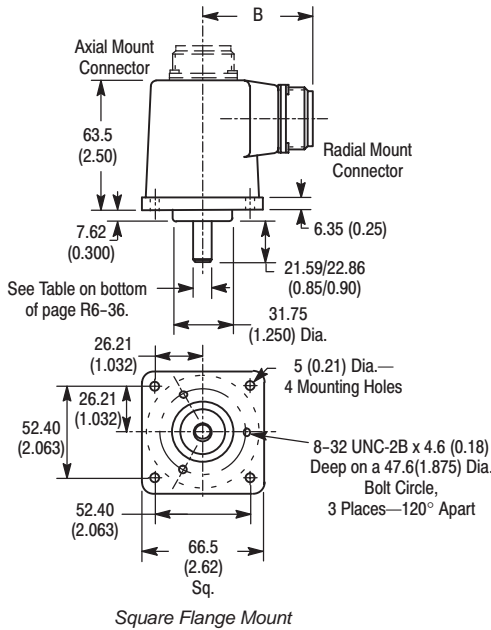


ATTENTION: Rigidly coupling the encoder shaft to the machine shaft **will cause a failure** in either the bearings of the encoder or the bearings of the machine shaft.

Bulletin 845H Incremental Encoders

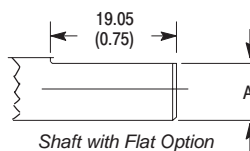
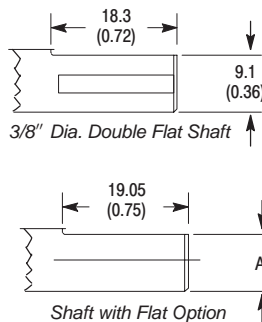
Size 25, High Performance

Dimensions—mm (inches)



Shaft Diameter Options

Code	Shaft Diameter
A or K	6mm +0.00mm, -0.013mm
B or L	10mm +0.00mm, -0.013mm
C or M	6.35 (0.2499) +0.0000, -0.0005
Z or N	9.52 (0.3749) +0.0000, -0.0005



Flat Dimensions

Code	Dimension "A"
K	5.3mm (0.21in)
L	9.1mm (0.36in)
M	5.5mm (0.22in)
N	8.6mm (0.34in)