



Square Flange Mount
845T-DZ13ECR



Specifications

Electrical	
Code Format	Incremental (A, AB or ABZ channels)
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 11-20V DC @ 150mA maximum 24V DC @ 150mA maximum
Frequency Response	Data: 100kHz Zero index: 100kHz
Operating Speed (Data)	(100kHz x 60)/pulses per revolution = RPM or 15,000 RPM, whichever is lower
Resolution	Up to 3000 PPR on code disk
Output Drive Capability	Push-Pull Single Ended Driver = ±20mA Differential line driver = ±20mA
Mechanical	
Starting Torque	2.5Ncm typical [3.5in-oz]
Running Torque	2.5Ncm typical [3.5in-oz]
Slew Speed	15,000 RPM
Shaft Loading	Axial: 359N [80lbs] Radial: 359N [80lbs] (10mm, 3/8in shafts) 180N [40lbs] (6mm, 1/4in shafts)
Shaft Size	6mm, 10mm, 6.4mm [1/4in], 9.517mm [3/8in] diameter
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 Ship Weight	0.44kg (14oz)

Description

Bulletin 845T optical incremental encoders are used to electronically monitor the position of a rotating shaft. Shaft motion is converted to digital pulses which are accumulated and evaluated by various electronic controllers. The 845T provides code disk resolutions of up to 3000 pulses per revolution, and a frequency response of up to 100kHz.

The Bulletin 845T encoder is a heavy duty, NEMA Type 4, and IP66 (IEC 529) rated optical incremental shaft encoder that is housed in a two inch diameter enclosure. Typical applications for the 845T include machine tools, packaging machinery, motion controls, and robotics. The heavy duty bearing assembly, rugged construction and high shaft loading capabilities make the 845T suitable for many of today's harsh industrial environments.

Features

- Code disk resolution up to 3000 PPR
- 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 845T Incremental Encoders

Size 20, Heavy Duty

Selection Guide

845T — **D** **Z** **1** **3** **E** **CR** — **C**
a b c d e f g

a

Mounting Configuration	
Code	Description
D	Square Flange
H	Servo with Face Mount Holes
L	Servo without Face Mount Holes

b

Shaft Options	
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

c

Electrical Options ①	
Code	Description
1	5V DC in, 5V DC DLD Out
2	5V DC in, 5V DC P-P Out
3	11-24V DC in, 11-24V DC P-P Out
4	11-20V DC in, 5V DC DLD Out
5	24V DC in, 5V DC DLD Out
6	11-24V DC in, 11-24V DC DLD out

① DLD = Differential Line Driver
 P-P = Push-Pull Single Ended Driver

d

Signal Options	
Code	Description
1	Channel A Only
2	Channel A and B
3	Channel A, B, and Z

e

Connection Options	
Code	Description
A	6 Pin Connector ②
B	7 Pin Connector ②
E	10 Pin Connector
P	Pigtail Cable

② This option not available with Electrical Option codes: "1," "4," "5" or "6."

f

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

g

Mating Connector/Cable Length	
Code	Description
Blank	Without Mating Connector ③
C	With Mating Connector ③
1	1m (3.28ft) Cable Length ④
5	5m (16.4ft) Cable Length ④
9	9m (29.52ft) Cable Length ④

③ These options not available with Connection Options code: "P."

④ These options not available with Connection Options code: "A," "B," & "E."

Cable

Push-Pull 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

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

Electrical Connections

6-Pin Connector
(ACS02E14S-6P (023))

Push-Pull Outputs

Pin	Function	Pin	Function
A	DC Return	D	Channel B Output
B	DC+ Input	E	Channel A Output
C	Channel Z Output	F	No Connection

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

Push-Pull Outputs

Pin	Function	Pin	Function
A	Channel A Output	E	No Connection
B	Channel B Output	F	DC Return
C	Channel Z Output	G	No Connection
D	DC+ Input	—	No Connection

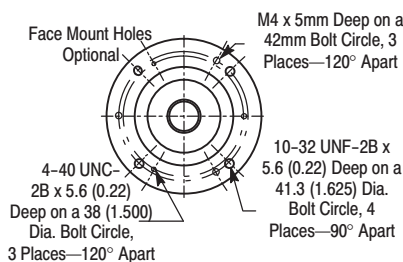
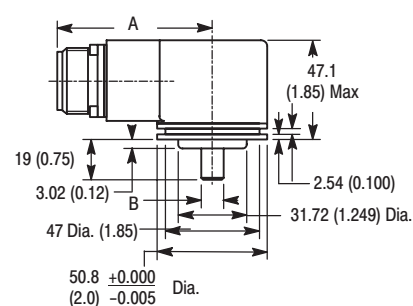
10-Pin Connector
(ACS02E18-1P (023))

Push-Pull, Differential Line Driver Outputs

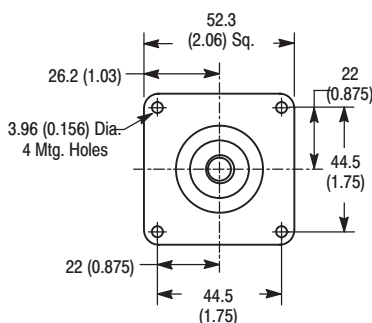
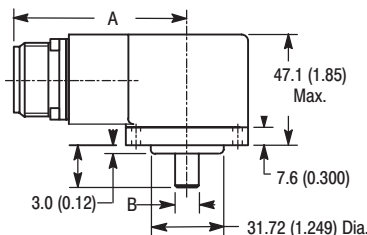
Pin	Function	Pin	Function
A	Channel A Output	F	DC Return
B	Channel B Output	G	No Connection
C	Channel Z Output	H	Channel \bar{A} Output
D	DC+ Input	I	Channel \bar{B} Output
E	No Connection	J	Channel \bar{Z} Output

⦿ Not included with push-pull outputs

Dimensions—mm (inches)



Servo Mount



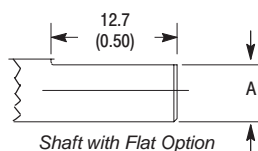
Square Flange Mount

Connector Dimensions

Dimension Code	Radial Connector Options	Length mm (inches)
A	ACS02E14S-6P (023)	57.7 (2.272)
	ACS02E16S-1P (023)	62.5 (2.460)
	ACS02E18-1P (023)	68.9 (2.691)

Shaft Diameter Options
Dimension "B"

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



Option H Mounting Configuration includes all 3 sets of mounting holes.

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)