

# 842E-CM Integrated Motion on EtherNet/IP Absolute Encoders

Building a better machine on a single network

## Features and Benefits

- EtherNet/IP™ Interface with embedded switch for topology flexibility, including Device Level Ring (DLR)
- 30-bit resolution and endless shaft capability for precise applications
- IP65 protection for harsh environments
- Option to set the IP address via hardware switches, Dynamic Host Configuration Protocol (DHCP) or in the Add-On-Profile (AOP)
- Diverse form factors, including solid face mount flange, servo mount, keyed shaft and blind hollow shaft options
- ControlFLASH™ firmware for easy upgrades
- RSLogix 5000® AOP allows easy configuration of parameters:
  - Counting direction
  - Counts per revolution
  - Preset value
  - Velocity unit
  - IP address
  - Total Resolution
  - Scaling

## Premier Integration with Logix Controllers

- Supports CIP Sync and CIP Motion technologies
- Can be configured as a feedback only axis in Studio 5000 Logix Designer® software



To continue to drive machine scalability, Rockwell Automation developed the Integrated Motion on EtherNet/IP™ Encoder as part of the Midrange System with its CompactLogix™ 5370 controllers.

The size of a machine's footprint is becoming very important today. With the introduction of the the Kinetix® 5500, Rockwell Automation has greatly reduced the footprint required for the control panel. By utilizing a single network, the 842E-CM contributes to this footprint reduction by placing aux feedback requirements out of the panel and right on the machine.

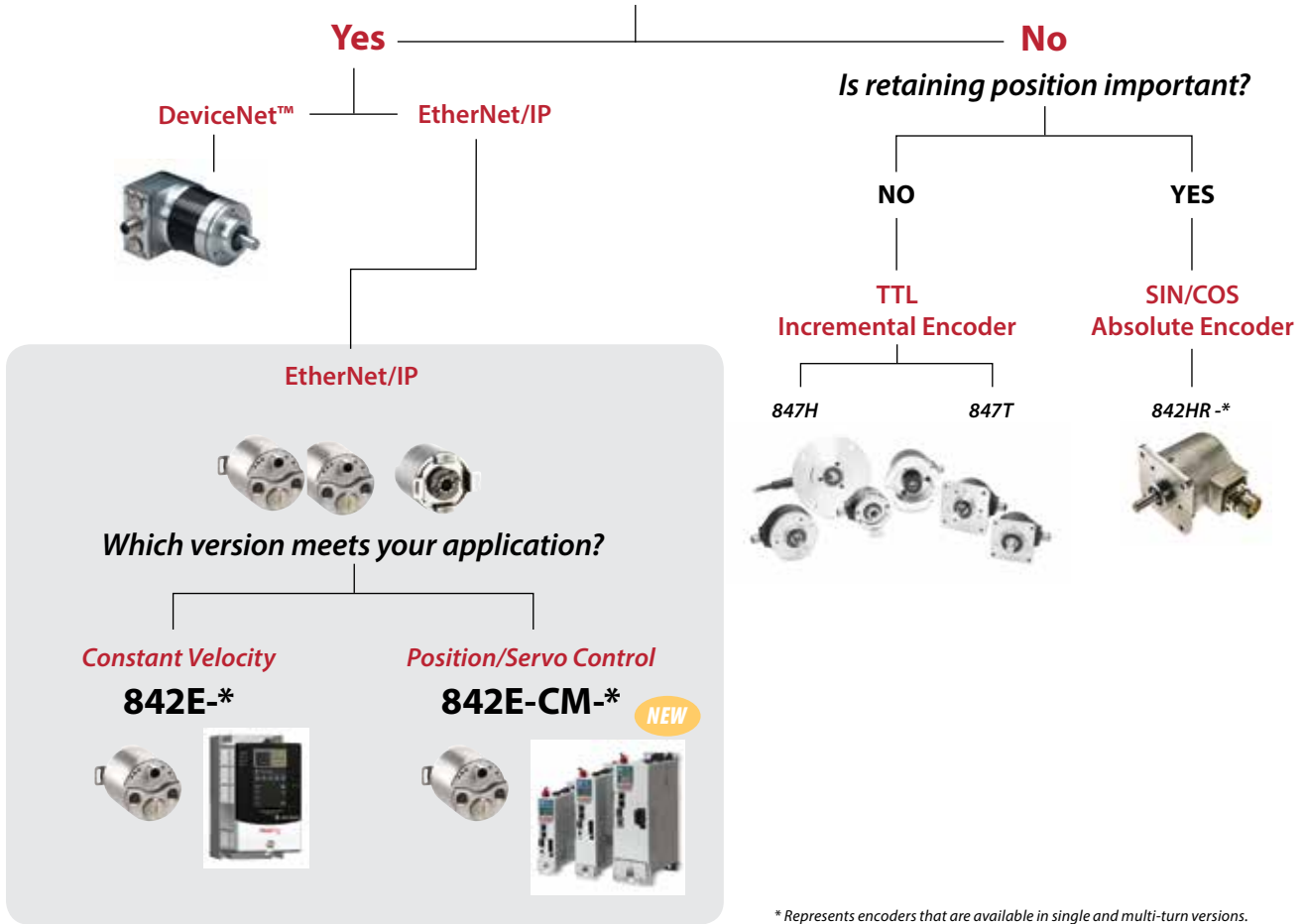
The Allen-Bradley® 842E-CM encoder is a creative solution for these applications that complements the new Kinetix 5500 architecture. By providing auxiliary feedback directly through the EtherNet/IP network, the 842E-CM eliminates the need for point-to-point wiring while allowing customers to use the encoder in a variety of network topologies. What also makes this product truly unique is that it takes advantage of CIP Sync and CIP Motion Technology, a time synchronization extension for the Common Industrial Protocol (fully compliant with IEEE-1588). Using CIP Sync and CIP Motion Technology, the encoder provides a timestamp associated with all data delivered to and from the controller to allow it and the entire system to be synchronized with the master clock reference on sub-microsecond levels.

Thanks to Premier Integration between the 842E-CM and Allen-Bradley Logix controllers provides a seamless user experience. A user can add and configure the encoder into their Studio 5000 Logix Designer (formerly RSLogix5000®) software project thereby allowing it to function as a feedback-only CIP axis in the Logix controller.

LISTEN.  
THINK.  
SOLVE.®

## Allen-Bradley Encoder Portfolio

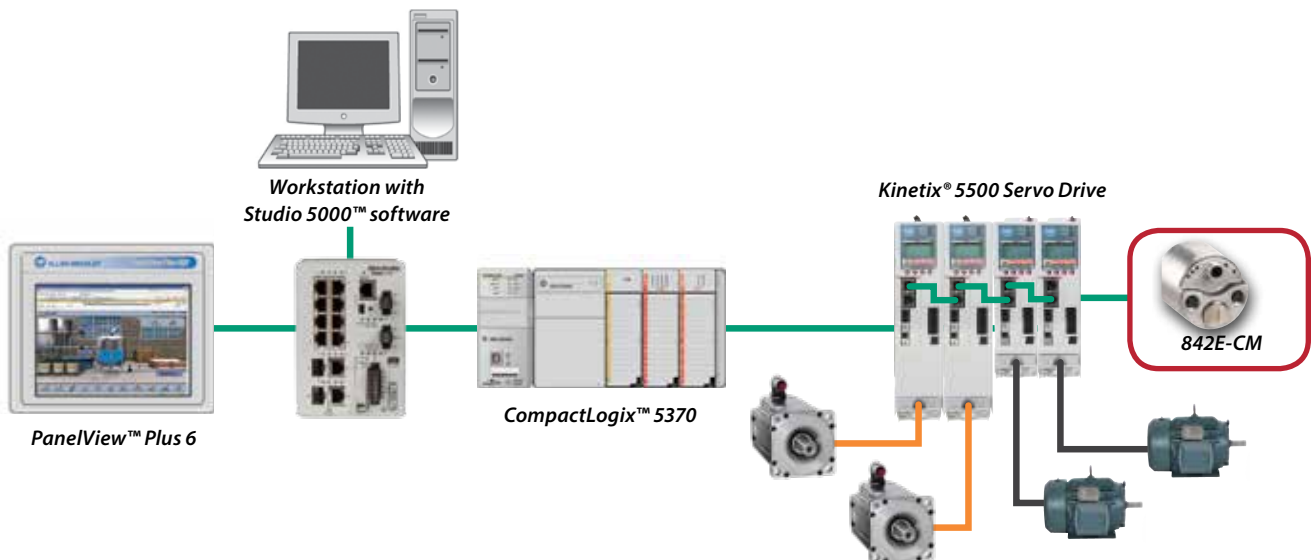
Do you need networking capabilities?



\* Represents encoders that are available in single and multi-turn versions.

### Integrated Motion on EtherNet/IP

EtherNet/IP uses CIP Sync and CIP Motion technologies to provide real-time, closed loop motion on standard ethernet. This topology-independent network provides a simplified integration of the entire control solution on one network, including HMI, PAC, IO, and Motion Control.



## Product Selection

842E-CM –  $\frac{S}{a}$   $\frac{IP}{b}$   $\frac{10}{c}$   $\frac{B}{d}$   $\frac{A}{e}$

*a*

Number of Turns	
Code	Description
S	Single-turn (1 turn)
M	Multi-turn (4096 turns)

*b*

Mechanical Interface	
Code	Description
1	Solid shaft 3/8 in.
2	Solid shaft 3/8 in. with flat
3	Solid shaft 10 mm
4	Solid shaft 10 mm with flat
5	Hollow shaft 1/4 in.
6	Hollow shaft 8 mm
7	Hollow shaft 3/8 in.
8	Hollow shaft 10 mm
9	Hollow shaft 12 mm
10	Hollow shaft 1/2 in.
11	Hollow shaft 14 mm
12	Hollow shaft 15 mm
13	Servo mount solid 6 mm with flat
14	Solid shaft 10 mm with key

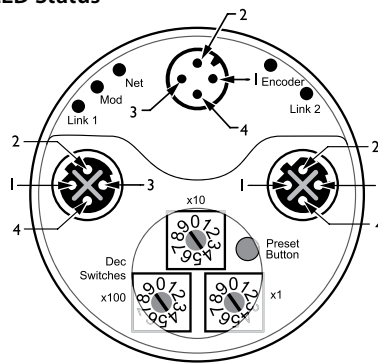
*c*

Connector	
Code	Description
B	M12 connector

*d*

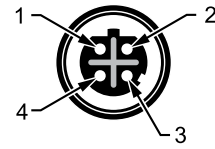
Resolution	
Code	Description
A	262,144 (18-bit) steps per revolution

### LED Status



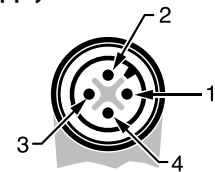
## Pinout & Color Code

### EtherNet/IP Pinout




Pin	Signal Name	Color Code	Pair Assignment
1	TXD+	White Orange	Pair 1
3	TXD-	Orange	
2	RXD+	White Green	Pair 2
4	RXD-	Green	


### Power Supply Pinout





**Warning:** Do not use pins 2 and 4


Pin	Signal	Color Code	Pair Assignment
1	V <sub>s</sub>	Brown	Supply voltage 10...32V DC
2	—	White	<b>Do not use</b>
3	GND	Blue	0V DC (ground)
4	—	Black	<b>Do not use</b>

Flexible Couplings			
Description	Smallest Bore Diameter	Largest Bore Diameter	Catalog Number
	1/4 in.	1/4 in.	845-FC-A-A
	3/8 in.	3/8 in.	845-FC-B-B
	3/8 in.	1/2 in.	845-FC-B-C
	3/8 in.	10 mm	845-FC-B-T
	10 mm	10 mm	845-FC-T-T

Mounting Plates		
Description	Details	Catalog Number
	Integral coupling flange, high performance	845-MB-5
	BC48 Servo to square flange	845-MB-6
	0.1875 Servo to square flange	845-MB-7
	63 mm Face mount	845-MB-12

Mounting Brackets		
Description	Details	Catalog Number
	Clamp ring	845-MB-10
	60 mm 2-point stator coupling	845-MB-11

EtherNet Media		
Description	Length	Catalog Number
	1 m	1585D-M4TBJM-1
	2 m	1585D-M4TBJM-2
	5 m	1585D-M4TBJM-5
	10 m	1585D-M4TBJM-10
	15 m	1585D-M4TBJM-15

Cordsets & Patchcords		
Description	Length	Catalog Number
	1 m	889D-F4ACDM-1
	2 m	889D-F4ACDM-2
	3 m	889D-F4ACDM-3
	5 m	889D-F4ACDM-5
	10 m	889D-F4ACDM-10

Learn more about *842E-CM Integrated Motion on EtherNet/IP Absolute Encoders* on [ab.com](http://ab.com).

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[www.rockwellautomation.com](http://www.rockwellautomation.com)

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