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ENCV Standard Encoder Converter

Description

The ENCV standard encoder converter allows the DYN2 and DYN4 servo drives to achieve feedback with incremental and hall sensor encoder types. The incremental output is converted into the DMM ABS encoder protocol.

Brushless AC motor types should be used and commutation can be generated from incremental, or hall sensor signals. The ENCV converter has a built-in calibration procedure to minimize dependence on incremental encoder mounting tolerance. The device can calculate it's own commutation phases to maximize power efficiency.

The user should specify the input encoder resolution and motor pole number when ordering. The ENCV converter is available in two types. Type (A) is open PCB. Type (B) is enclosed with connectors and panel mounts.



ENCV - Type B

Compatible Encoder Formats

- Single ended or Differential A/B/Z with U/V/W Commutation
- Single ended or Differential A/B/Z with Digital Hall Commutation
- Resolver (Future Option)

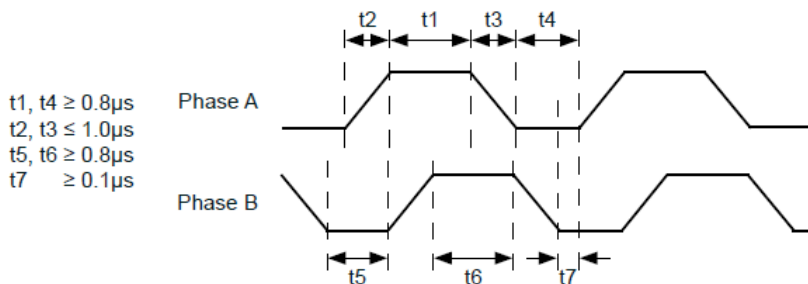
Electrical Specification

	Units	Min	Typ.	Max.
Main power supply voltage	V	4.5	5	5
Max input pulse frequency	Mhz	-	-	1
Incremental resolution	C/T	400	-	20,000
Incremental pulse width	µs	0.8	-	-
Hall sensor input frequency	Mhz	-	-	0.5
Motor pole number		2	-	-
Motor speed	rpm	-	-	20,000

Environment Specification

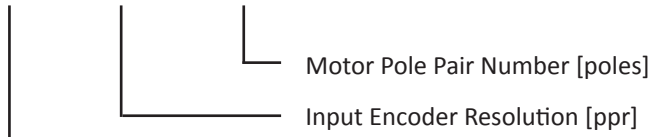
Operating temperature		-20 ~ 90°C
Storage temperature		-30 ~ 95°C
Humidity		95RH% (no dew)
Enclosure	Type A	IP00
	Type B	IP10

Incremental Pulse Specification



Part Number

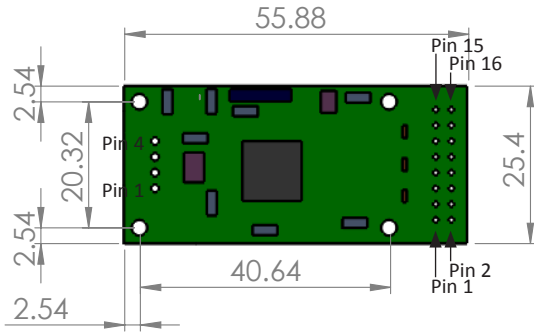
Example: **ENCV - A - 2500 - 08**



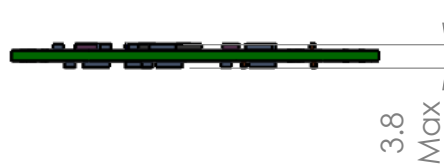
Build Type	
A	Open PCB
B	Enclosed with Connectors

Dimensions

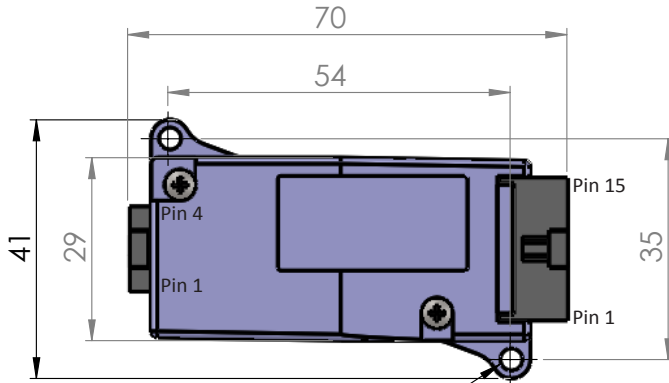
Type A



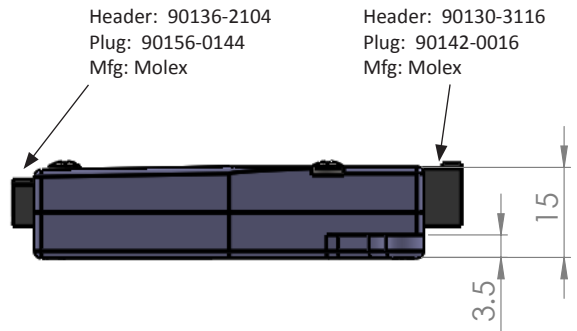
Unit: [mm]



Type B



2 x \varnothing 3.5mm
Mount using M3 screw



Pinout

Output to DYN Servo Drive	
Pin 1	Ground
Pin 2	S-
Pin 3	S+
Pin 4	+5V

Input from Standard Encoder			
Pin 1	Ground	Pin 9	Z+
Pin 2	Ground	Pin 10	Z-
Pin 3	W+ / Hall C	Pin 11	B+
Pin 4	W-	Pin 12	B-
Pin 5	V+ / Hall B	Pin 13	A+
Pin 6	V-	Pin 14	A-
Pin 7	U+ / Hall A	Pin 15	+5V
Pin 8	U-	Pin 16	+5V

Accessory Cables

Part Number	Description				
CA-ENCV-ADYN2-□ □ = Length in meters	Encoder Converter Type A to DYN2 servo drive extension cable <table border="1"> <tr> <td>Side A (To ENCV Encoder Converter)</td> <td>4-pin flying lead</td> </tr> <tr> <td>Side B (To DYN2 servo drive JP4)</td> <td>Molex 50-57-9404</td> </tr> </table>	Side A (To ENCV Encoder Converter)	4-pin flying lead	Side B (To DYN2 servo drive JP4)	Molex 50-57-9404
Side A (To ENCV Encoder Converter)	4-pin flying lead				
Side B (To DYN2 servo drive JP4)	Molex 50-57-9404				
CA-ENCV-ADYN4-□ □ = Length in meters	Encoder Converter Type A to DYN4 servo drive extension cable <table border="1"> <tr> <td>Side A (To ENCV Encoder Converter)</td> <td>4-pin flying lead</td> </tr> <tr> <td>Side B (To DYN4 servo drive JP3)</td> <td>3M 36210-0100FD</td> </tr> </table>	Side A (To ENCV Encoder Converter)	4-pin flying lead	Side B (To DYN4 servo drive JP3)	3M 36210-0100FD
Side A (To ENCV Encoder Converter)	4-pin flying lead				
Side B (To DYN4 servo drive JP3)	3M 36210-0100FD				
CA-ENCV-BDYN2-□ □ = Length in meters	Encoder Converter Type B to DYN2 servo drive extension cable <table border="1"> <tr> <td>Side A (To ENCV Encoder Converter)</td> <td>Molex 90156-0144</td> </tr> <tr> <td>Side B (To DYN2 servo drive JP4)</td> <td>Molex 50-57-9404</td> </tr> </table>	Side A (To ENCV Encoder Converter)	Molex 90156-0144	Side B (To DYN2 servo drive JP4)	Molex 50-57-9404
Side A (To ENCV Encoder Converter)	Molex 90156-0144				
Side B (To DYN2 servo drive JP4)	Molex 50-57-9404				
CA-ENCV-BDYN4-□ □ = Length in meters	Encoder Converter Type B to DYN4 servo drive extension cable <table border="1"> <tr> <td>Side A (To ENCV Encoder Converter)</td> <td>Molex 90156-0144</td> </tr> <tr> <td>Side B (To DYN4 servo drive JP3)</td> <td>3M 36210-0100FD</td> </tr> </table>	Side A (To ENCV Encoder Converter)	Molex 90156-0144	Side B (To DYN4 servo drive JP3)	3M 36210-0100FD
Side A (To ENCV Encoder Converter)	Molex 90156-0144				
Side B (To DYN4 servo drive JP3)	3M 36210-0100FD				
CA-ENCV-BEX	Encoder converter Type B input encoder connector 16-pin flying lead cable. 500mm length. <table border="1"> <tr> <td>Side A (To Standard Encoder)</td> <td>16-pin flying lead</td> </tr> <tr> <td>Side B (To ENCV Encoder Converter)</td> <td>90142-0016</td> </tr> </table>	Side A (To Standard Encoder)	16-pin flying lead	Side B (To ENCV Encoder Converter)	90142-0016
Side A (To Standard Encoder)	16-pin flying lead				
Side B (To ENCV Encoder Converter)	90142-0016				

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