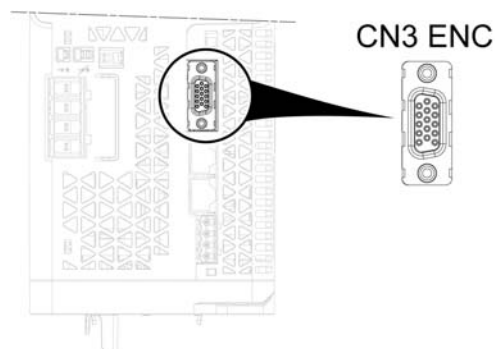
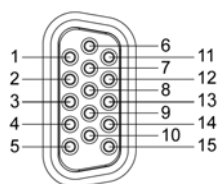


Drive Frame Sizes 1...3 - Top Side CN3 Connector



Terminal	Description	I/O Type	Electrical characteristics
ENC	Embedded Encoder	I/O	SUB-HD-15 female - Digital encoder 5V RS422 A/B/I - Analog encoder 1Vpp sin/cos Encoder supply: +5 V (max. 10 m), 250 mA +12 V, 100 mA +24 V, 100 mA - Thermal sensor input PTx

Connector type: The encoder interface is realized with a female high density 15-pin Sub-HD connector. Screw lock thread 4-40 UNC



Pin signal, function and electrical characteristics

Pin	Signal name	Function/Meaning	Electrical Characteristics
1	DATA_A+	Data channel A	RS422/RS485, Rin 121 Ohm, 1 Mbit max.
2	DATA_A-		
3	ENC+24V_OUT	Encoder Supply 24 Vdc	+24 Vdc / 100mA
4	DATA_I+	Data channel I	RS422/RS485, Rin 121Ohm, 1 MBit max.
5	DATA_I-		
6	SIN	Sine analog input	1 Vpp, 100 kHz max.
7	ENC+12V_OUT	Encoder Supply 12 Vdc	+12 Vdc / 100mA
8	ENC_0V	Reference potential for encoder supply or Reference for Temperature sense	-
9	TEMP_SENSE	Temperature sensor input	Supported sensor: PTC, Klixon
10	DATA_B+	Data channel B	RS422/RS485, Rin 121 Ohm, 1 Mbit max.
11	DATA_B-		
12	COS	Cosinus analog input	1Vpp, 100 kHz max.
13	REFCOS	Reference for Cosinus	1Vpp, 100 kHz max.
14	REFSIN	Reference for Sinus analog input	1Vpp, 100 kHz max.
15	ENC+5V_OUT	Encoder Supply 5 Vdc	+5 Vdc / 250 mA
Shield		Overall cable shielding for signal lines	The shield is connected in the connector via the housing.

Cable characteristics

Pin	Twisted Wire pair digital	Twisted Wire pair analog	ABI	sin/cos 1 Vpp	I/O
1	1	NC	R	-	I/O
2					
3	4a *	4a *	-	-	O
4	3	NC	R	-	I
5					
6	NC	2	-	R	O
7	4b *	4b *	-	-	O
8	4 or 5	4 or 5	R	R	
9	5	5	Opt.	Opt.	I
10	2	NC	R	-	I
11					
12	NC	3	-	R	-
13					
14	NC	2	-	R	O
15	4c *	4c *	-	-	O
Shield			R	R	
*: Wired depending on selected supply voltage R: Required -: Not required Opt.: Optional					

Special Features:

- Wire break detection on DATA_A and DATA_B channel
- Safety: SIL1 (SC SIL2)

NOTE:

- Cable connector needs to be screwed to CN3 Encoder interface and cable must be maintained on cabinet backplane and drive top
- If you add an option module, verify the wiring diagram which is different between the CN3 connector and the Analog Encoder module ([VW3A3422](#)), or the Digital Encoder module ([VW3A3420](#)).

Cable connection tips:

- Before connecting the encoder cable check carefully the wiring against above signal table and ensure that there are no short circuits between signals
- For 24V encoder supply activation see the parameter **[24 V Supply Output] 5 2 4 V** described in the Programming manual ([see page 10](#)) available on www.schneider-electric.com
- For good EMC performance and connection reliability under vibration ensure proper assembly of encoder connector to CN3 interface by UNC screw fixing
- Encoder cable needs to be maintained on top of drive (use cable tie fixation on plastic fin) or cabinet backplane for strain relief

Maximum cable length according to encoder supply:

- 12 Vdc / 24 Vdc: 100 m (328 ft)
- 5 Vdc: 10 m (32 ft)

Recommended encoder cable:

- Encoder cable 100 m (328 ft), ends open, catalog number [VW3M8221R1000](#)
 - 1 x 2 x 0.5 mm² (AWG20) for supply line
 - 5 x 2 x 0.25 mm² (AWG26) for signal and sensor lines