



AMKASYN
VARIABLE SPEED DRIVES

Application Note No. AP 2002-21-1

Date: July 2002

Rights reserved to make technical changes

Motors with I type encoder "H"

We use a **new type of I type encoder for new motors** and for **repair motors**. The electrical and mechanical features of this new I type encoder are compatible.

All motors which uses the new type are identified by the addition "H" in the field encoder of the motor name plate.

Differently from the old sensor, this type "H" requires for EMI reasons **the connection of the sensor cable screen on both to chassis.**

The screen connection needs the use of the a **suitable connector with a screen mounting mechanism**. This connector can be ordered by AMK under the part number 49163.

For existing machines this note has to be put in place, only if a motor with I type encoder type "H" is installed.

From now all new and repair motors will have a label regarding this issue.

Appendix:

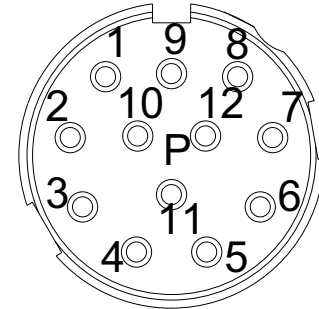
Extract from the updated installation procedure (Application AP 2002/21-1)

Pin out encoder connector (motor side):

A- / I- / T- / S- type encoder, Resolver:

Screen Cable LiYCY 4 x 2 x 0,5 mm ² (AWG 20), twisted pair					
Pin Nr.	Pair Nr.	colour	Encoder A / I Signal	Encoder T / S (RS485) Signal	Resolver Signal
1	1a	white	G2N	G2N	+Sine (S1)
2	1b	brown	G2I	G2I	-Sine (S3)
3	2a	green	G1N	G1N	+Cosine (S2)
4	2b	yellow	G1I	G1I	-Cosine (S4)
5	-	-	-	-	-
6	4a	blue	GND	GND	-
7	-	-	-	-	-
8	-	-	-	screen*	-
9	3a	gray	G0N	+RS485	+U _{ref} (R1)
10	3b	pink	G0I	-RS485	-U _{ref} (R2)
11	4b	red	05P	08P	-
12	-	-	-	-	-
Shell		Screen			

View: crimp side

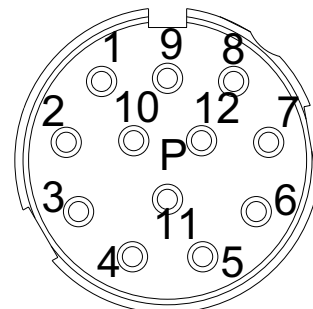


* Because the T-/S-type encoder is mounted isolated inside the motor, the cable screen has to be connected to pin 8.

Absolute position encoder with EnDat-Interface: Type E (singleturn), Type F (multiturn)

Screened cable Kabel (12-adrig) 4 x 2 x 0,25mm ² twisted pair/ 4 x 0,5mm ²		
Pin Nr.	Colour (wire size)	encoder E / F Signal
1	white (0,25mm ²)	G2N
2	brown (0,25mm ²)	G2I
3	green (0,25mm ²)	G1N
4	yellow (0,25mm ²)	G1I
5	violet (0,5mm ²)	05P
6	blue (0,5mm ²)	GND
7	grey/pink (0,25mm ²)	CLK+
8	red/blue (0,25mm ²)	CLK-
9	grey (0,25mm ²)	DAT+
10	pink (0,25mm ²)	DAT-
11	red (0,5mm ²)	05P
12	black (0,5mm ²)	GND
Shell	wire blank	screen

View: crimp side



Important for all encoders:

The screen of the encoder cable has to be connected on both side to chassis via the connector shell.

Maximum length of the encoder cable: 100 m (for E- / F- encoder in the moment 25m!)

A connector set consist of the connector and 12 crimp pins can be ordered from AMK under the part number 49163.