Encoder Pinout

Resolver Feedback

Encoder type: Resolver 2p 7V 10KHz

RESOLVER CONNECTION			
Function	*M15 – 12+3p*	*M17 – 17p*	*M23 – 12p 20°*
Ref+	10	10	10
Ref-	7	7	7
Cos+	2	2	2
Cos-	1	1	1
Sen+	11	11	11
Sen-	12	12	12
PTC / PT1000+	8	8	8
PTC / PT1000-	9	9	9

TTL Encoder

TTL ENCODER CONNECTION			
Function	*M15 – 12+3p – SIZE 0 [1)]*	*M17 – 17p*	*M23 – 17p*
+5VDc	B	10	10
GND	A	7	7
A+	11	1	1
A/	12	2	2
B+	1	11	11
B/	2	12	12
Z+	3	3	3
Z/	10	13	13
U+	4	4	4
U/	-	14	14
V+	6	5	5
V/	-	6	6
W+	5	16	16
W/	-	15	15
PTC / PT1000+	8	8	8
PTC / PT1000-	9	9	9

BISS-C Encoder

Encoder types:

ELM35 :
https://www.sick.com/at/de/catalog/produkte/motion-control-sensoren/motor-feedback-systeme/elsel m35/c/g584054

BISS-C ENCODER CONNECTION (additional BISS-B analogic signals in brackets)			
Function	**M15 –12+3p**	**M17 – 17p**	**M23 – 17p**
+5VDc	10	10	10
GND	7	7	7
(A+)	1	1	1
(A-)	2	2	2
DATA+	3	3	3
CLOCK+	5	5	5
(B+)	11	11	11
(B-)	12	12	12
DATA-	4	13	13
CLOCK-	A	14	14
GND BAT (0V SENSE)	B	15	15
+VBAT (5V SENSE)	C	16	16
PTC / PT1000+	8	8	8
PTC / PT1000-	9	9	9

Endat Encoder

Encoder types:

EQI1131 Endat 2.2: https://www.heidenhain.com/service-support/infobase/1164811-05
EQI1130 Endat 2.1: https://www.heidenhain.com/service-support/infobase/1164813-04

ENDAT ENCODER CONNECTION 2.2 (2.1)			
Function	**M15 – 12+3p**	**M17 – 17p**	**M23 – 17p**
+5VDc	10	10	10
GND	7	7	7
(A+)	1	1	1
(A-)	2	2	2
DATA+	3	3	3
CLOCK+	5	5	5
(B+)	11	11	11
(B-)	12	12	12
DATA-	4	13	13
CLOCK-	A	14	14
0V SENSE	B	15	15
+5V SENSE	C	16	16
(PTC / PT1000+)*	8	8	8
(PTC / PT1000-)*	9	9	9

*Thermal sensor pins are inserted into the connector only with Endat 2.1, with Endat 2.2 sensor must be read from encoder DATA

SIN/COS 1Vpp Encoder

SIN/COS 1Vpp ENCODER CONNECTION	
Function	**M23 – 17p**
+5VDc	10
GND	7
A+	1
A-	2
R+	3
D-	4
C+	5
C-	6
B+	11
B-	12
R-	13
D+	14
0V SENSE	15
5V SENSE	16
PTC / PT1000+	8
PTC / PT1000-	9

Hiperface Encoder

Encoder types:

SEL37 :
https://www.sick.com/at/de/catalog/produkte/motion-control-sensoren/motor-feedback-systeme/seksel/c/g575659
SKM36:
https://www.sick.com/at/de/catalog/produkte/motion-control-sensoren/motor-feedback-systeme/skssk m36/c/g215684
SEM70:
https://www.sick.com/at/de/catalog/produkte/motion-control-sensoren/motor-feedback-systeme/sessem/sem70-hn025ak22/p/p512349?tab=detail

HIPERFACE CONNECTION			
Function	**M15 – 12p**	**M17 – 17p**	**M23 – 17p**
US	10	10	10
+ SIN	8	1	1
- SIN	4	2	2
+ COS	9	11	11
- COS	5	12	12
GND	11	7	7
+ DATA	6	3	3
- DATA	7	13	13
PTC / PT1000+	1	8	8
PTC / PT1000-	2	9	9

DSL Encoder

Encoder types:

EKM36 :

https://www.sick.com/ag/de/catalog/produkte/safety/sichere-motor-feedback-systeme/eksekm36-s/ekm36-2kf0b020a/p/p478044
EKS36:
https://www.sick.com/ag/de/catalog/produkte/motion-control-sensoren/motor-feedback-systeme/eksekm36/eks36-0kf0b018a/p/p477845

DSL ENCODER CONNECTION		
Function	***M15 – 4+5p***	***M23 – 4+5p***
U phase motor	A	A
V phase motor	C	B
W phase motor	B	C
+24VDc Brake	1	G
0V Brake	2	F
Earth	⏚	⏚
DSL+	3	E
DSL-	4	H

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