Connector pin-outs

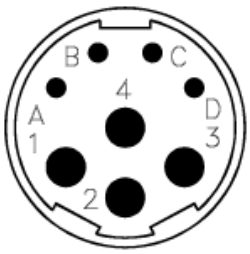
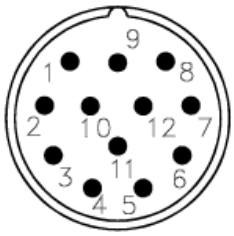
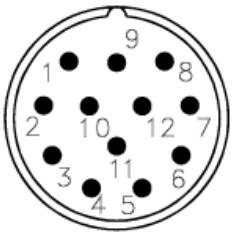
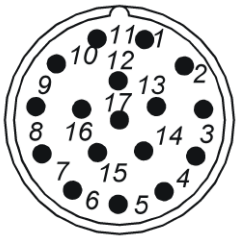
HDD does not manufacture power electronics itself. Instead, the motors can be equipped with different connectors with pinnings that fit standard cables of many major manufacturers of electronic drives. Currently connector pin-out suitable for power electronics from the following manufacturers are supported:

a	HDD default with thermistor in power connector
z	HDD default with thermistor in feedback connector
t	HDD default with trip thermistor and temperature measuring device
b	Infranor 1 (12-pole resolver connector)
b2	Infranor 2 (17-pole resolver connector)
c	Control-Techniques
e	Elau
f	Ferrocontrol
h	AMK
i	Bosch-Rexroth-Indramat 1 (8-pole power connector)
i2	Bosch-Rexroth-Indramat 2 (9-pole power connector)
k	Kollmorgen-Seidel
o	KEB
p	Parker
s	Siemens
u	Baumüller
y	Y-Tec

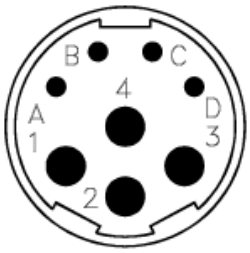
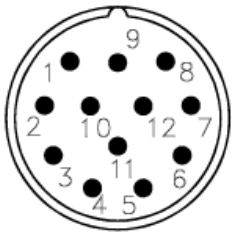
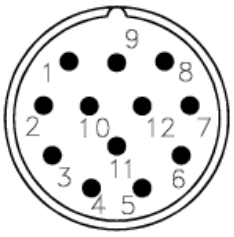
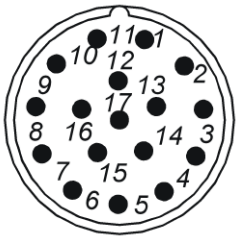
	Pin arrangement	**Mount**	**Sizes**
A	Intercontec 4+3+PE (or 5+PE)	straight top mount	09,14
B	Intercontec 4+3+PE (or 5+PE)	angled top mount	09,14
C	Intercontec 4+3+PE (or 5+PE)	straight rear mount	14
D	Intercontec 4+3+PE (or 5+PE)	angled rear mount	14
E	Intercontec 5+PE	straight top mount	09,14
F	Intercontec 5+PE	angled top mount	09,14
G	Intercontec 5+PE	straight rear mount	14
H	Intercontec 5+PE	angled rear mount	14
K	Intercontec 4+3+PE (or 5+PE)	straight forward mount	14
L	Intercontec 4+3+PE (or 5+PE)	angled forward mount	14
M	Intercontec 5+PE	straight forward mount	14
N	Intercontec 5+PE	angled forward mount	14
P	Intercontec 3+5+PE	straight top mount	09,14
Q	Intercontec 3+5+PE	angled top mount	09,14
S	Intercontec 3+5+PE	straight rear mount	14
T	Intercontec 3+5+PE	angled rear mount	14
U	Intercontec 3+5+PE	straight rear mount	14
V	Intercontec 3+5+PE	angled rear mount	14
X	Special connectors available on request. Contact HDD for details.		
Y	Speed Tech 12 pole	angled top mount	

The letters A, B, C, D, K and L are used for 4+3+PE power connectors, E, F, G, H, M and N are used for 5+PE power connectors, and P, Q, S, T, U, V for 5+3+PE. However, for legacy reasons motors with pinnings suitable for Parker and Siemens drives use the first series of letters, despite their six-pole connectors.

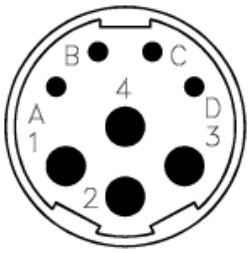
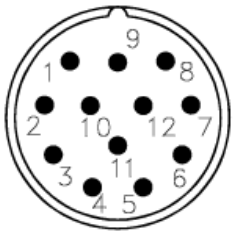
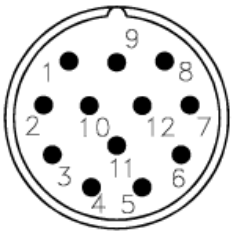
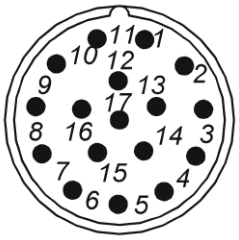
HDD Standard pin–out

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-A-**A**-A-A-AAA		HDD09J-Pa-**A**-A-A-A-AAA					
							
A	Straight top	A	2 poles, 0.5 transf. ratio	SS	Single turn	EM	EQN 1325, 512 lines/rev
B	Angled top	D	2 poles, 0.3 transf. ratio	SM	Multi turn	EN	EQN 1325, 2048 lines/rev
C	Straight rear			SC	Hollow shaft single turn	EQ	ECI 1118
D	Angled rear					ES	ECN 1313, 512 lines/rev
K	Straight front					ET	ECN 1313, 2048 lines/rev
L	Angled front					Without incremental signals:	
X	Special					ED	EBI 135
						EE	ECN 1325
						EF	ECN 1337
						Additional Endat types…	
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	Exc hi R1	1	–	1	Sensor (U_P)
2	Ground	2	Exc lo R2	2	–	2	–
3	Phase W	3	–	3	Gnd	3	–
4	Phase V	4	Cos hi S1	4	Cos	4	Sensor (0V)
A	Brake +24V	5	Cos lo S3	5	RefCos	5	–
B	Brake 0V	6	Sin lo S4	6	RefSin	6	–
C	Trip thermistor	7	Sin hi S2	7	Sin	7	U_P
D	Trip thermistor	8	–	8	+VCC	8	Clock
		9	–	9	+RS485	9	Clock’
		10	–	10	–RS485	10	0V (U_N)
		11	–	11	–	11	Shield
		12	–	12	–	12	B+ (if incr)
						13	B– (if incr)
						14	Data
						15	A+ (if incr)
						16	A– (if incr)
						17	Data’

z: HDD Standard pin–out with thermistor in feedback connector

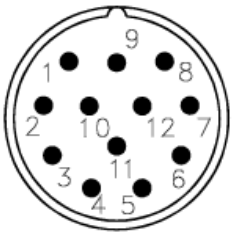
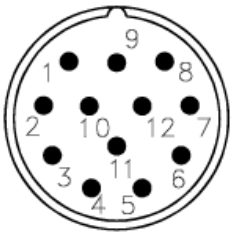
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Az-**Az**-A-A-AAA		HDD09J-Pa-**Az**-Az-A-A-AAA					
							
Az	Straight top	Az	2 poles, 0.5 transf. ratio	SSz	Single turn	EMz	EQN 1325, 512 lines/rev
Bz	Angled top	Dz	2 poles, 0.3 transf. ratio	SMz	Multi turn	ENz	EQN 1325, 2048 lines/rev
Cz	Straight rear			SCz	Hollow shaft single turn	EQz	ECI 1118
Dz	Angled rear					ESz	ECN 1313, 512 lines/rev
Kz	Straight front					ETz	ECN 1313, 2048 lines/rev
Lz	Angled front					Without incremental signals:	
Xz	Special					EDz	EBI 135
						EEz	ECN 1325
						EFz	ECN 1337
						Additional Endat types…	
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	Exc hi R1	1	–	1	Sensor (U_P)
2	Ground	2	Exc lo R2	2	–	2	–
3	Phase W	3	–	3	Gnd	3	–
4	Phase V	4	Cos hi S1	4	Cos	4	Sensor (0V)
A	Brake +24V	5	Cos lo S3	5	RefCos	5	Trip thermistor
B	Brake 0V	6	Sin lo S4	6	RefSin	6	Trip thermistor
C	–	7	Sin hi S2	7	Sin	7	U_P
D	–	8	–	8	+VCC	8	Clock
		9	–	9	+RS485	9	Clock’
		10	–	10	–RS485	10	0V (U_N)
		11	Trip thermistor	11	Trip thermistor	11	Shield
		12	Trip thermistor	12	Trip thermistor	12	B+ (if incr)
						13	B– (if incr)
						14	Data
						15	A+ (if incr)
						16	A– (if incr)
						17	Data’

t: HDD Standard pin–out with both trip and measurement thermistor (KTY) in power connector

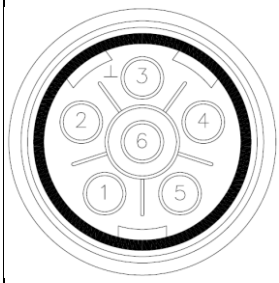
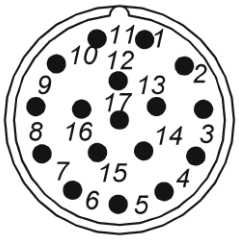
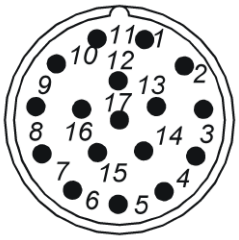
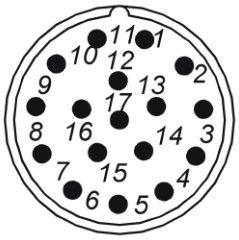
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-At-**At**-A-A-AAA		HDD09J-Pa-**At**-At-A-A-AAA					
							
At	Straight top	At	2 poles, 0.5 transf. ratio	SSt	Single turn	EMt	EQN 1325, 512 lines/rev
Bt	Angled top	Dt	2 poles, 0.3 transf. ratio	SMt	Multi turn	ENt	EQN 1325, 2048 lines/rev
Ct	Straight rear			SCt	Hollow shaft single turn	EQt	ECI 1118
Dt	Angled rear					ESt	ECN 1313, 512 lines/rev
Kt	Straight front					ETt	ECN 1313, 2048 lines/rev
Lt	Angled front					Without incremental signals:	
Xt	Special					EDt	EBI 135
						EEt	ECN 1325
						EFt	ECN 1337
						Additional Endat types…	
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	Exc hi R1	1	–	1	Sensor (U_P)
2	Ground	2	Exc lo R2	2	–	2	–
3	Phase W	3	–	3	Gnd	3	–
4	Phase V	4	Cos hi S1	4	Cos	4	Sensor (0V)
A	KTY +	5	Cos lo S3	5	RefCos	5	–
B	KTY –	6	Sin lo S4	6	RefSin	6	–
C	Trip thermistor	7	Sin hi S2	7	Sin	7	U_P
D	Trip thermistor	8	–	8	+VCC	8	Clock
		9	–	9	+RS485	9	Clock’
		10	–	10	–RS485	10	0V (U_N)
		11	–	11	–	11	Shield
		12	–	12	–	12	B+ (if incr)
						13	B– (if incr)
						14	Data
						15	A+ (if incr)
						16	A– (if incr)
						17	Data’

Note: The measurement thermistor is KTY–84 temperature measuring device.

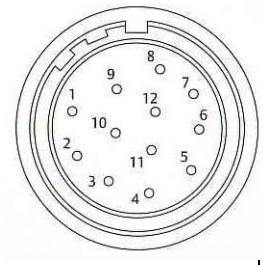
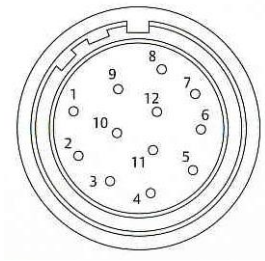
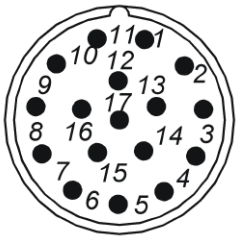
b: Infranor pin–out 1

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ab-**Eb**-A-A-AAA		HDD09J-Pa-**Ab**-Eb-A-A-AAA					
						May be available on request. Please contact HDD.	
Eb	Straight top	Ab	2 poles, 0.5 transf. ratio	SSb	Single turn		
Fb	Angled top	Db	2 poles, 0.3 transf. ratio	SMb	Multi turn		
Gb	Straight rear			SCb	Hollow shaft single turn		
Hb	Angled rear						
Mb	Straight front						
Nb	Angled front						
Pin		**Pin**		**Pin**			
1	Phase W	1	Sin– S4	1	VCC		
2	Phase U	2	Sin+ S2	2	Gnd		
3	Ground	3	Cos– S1	3	RefSin		
4	Phase V	4	Cos+ S3	4	RefCos		
5	Brake +24V	5	Trip thermistor	5	+RS485		
6	Brake 0V	6	Trip thermistor	6	–RS485		
		7	Ref– R2	7	Sin +		
		8	Ref+ R1	8	Cos +		
		9	–	9	Trip thermistor		
		10	–	10	Trip thermistor		
		11	–	11	–		
		12	–	12	–		

b: Infranor pin–out 2

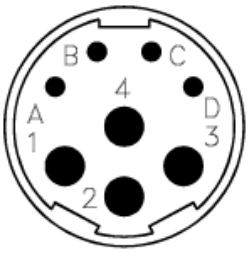
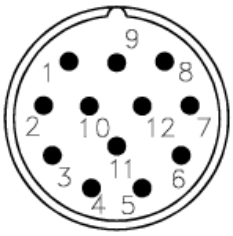
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ab2-**Eb2**-A-A-AAA		HDD09J-Pa-**Ab2**-Eb2-A-A-AAA					
							
Eb2	Straight top	Ab2	2 poles, 0.5 transf. ratio	SSb2	Single turn	EMb2	EQN 1325, 512 lines/rev
Fb2	Angled top	Db2	2 poles, 0.3 transf. ratio	SMb2	Multi turn	ENb2	EQN 1325, 2048 lines/rev
Gb2	Straight rear			SCb2	Hollow shaft single turn	EQb2	ECI 1118
Hb2	Angled rear					ESb2	ECN 1313, 512 lines/rev
Mb2	Straight front					ETb2	ECN 1313, 2048 lines/rev
Nb2	Angled front					Without incremental signals:	
						EDb2	EBI 135
						EEb2	ECN 1325
						EFb2	ECN 1337
						Additional Endat types…	
Pin		**Pin**		**Pin**		**Pin**	
1	Phase W	1	Sin+ S2	1	Sin+	1	A+ (if incr)
2	Phase U	2	Sin– S4	2	Sin–	2	A– (if incr)
3	Ground	3	Cos+ S3	3	Cos+	3	B+ (if incr)
4	Phase V	4	Cos– S1	4	Cos–	4	B– (if incr)
5	Brake +24V	5	Ref+ R1	5	Data+	5	Clock
6	Brake 0V	6	Ref– R2	6	Data–	6	Clock’
		7	–	7	–	7	Data
		8	–	8	–	8	Data’
		9	–	9	–	9	–
		10	–	10	0V	10	0V
		11	–	11	+12V	11	+5V
		12	Trip thermistor	12	Trip thermistor	12	Trip thermistor
		13	Trip thermistor	13	Trip thermistor	13	Trip thermistor
		14	–	14	–	14	–
		15	–	15	–	15	–
		16	–	16	–	16	–
		17	–	17	–	17	–

c: Control Techniques pin–out

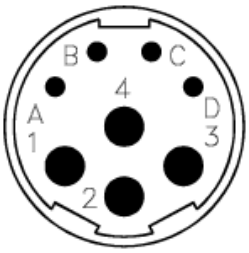
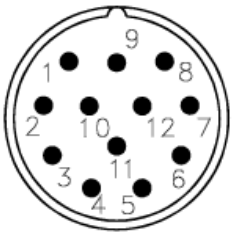
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ac-**Ec**-A-A-AAA		HDD09J-Pa-**Ac**-Ec-A-A-AAA					
							
Ec	Straight top	Ac	2 poles, 0.5 transf. ratio	SSc	Single turn	EMc	EQN 1325, 512 lines/rev
Fc	Angled top	Dc	2 poles, 0.3 transf. ratio	SMc	Multi turn	ENc	EQN 1325, 2048 lines/rev
Gc	Straight rear			SCc	Hollow shaft single turn	EQc	ECI 1118
Hc	Angled rear					ESc	ECN 1313, 512 lines/rev
Mc	Straight front					ETc	ECN 1313, 2048 lines/rev
Nc	Angled front					Without incremental signals:	
						EDc	EBI 135
						EEc	ECN 1325
						EFc	ECN 1337
						Additional Endat types…	
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	Exc hi	1	REF Cos	1	Trip thermistor
2	Phase V	2	Exc lo	2	+ Data	2	Trip thermistor
3	Ground	3	Cos hi	3	– Data	3	–
4	Phase W	4	Cos lo	4	+ Cos	4	–
5	Brake +24V	5	Sin hi	5	+ Sin	5	–
6	Brake 0V	6	Sin lo	6	REF Sin	6	–
		7	Trip thermistor	7	Trip thermistor	7	+ Clock
		8	Trip thermistor	8	Trip thermistor	8	– Clock
		9	–	9	Screen	9	+ Cos (if incr)
		10	–	10	0 V	10	+ Data
		11	–	11	–	11	– Data
		12	–	12	+Volts	12	– Cos (if incr)
						13	+ Sin (if incr)
						14	– Sin (if incr)
						15	+ 8V
						16	0 Volts
						17	Screen

Note: Location of connector key in resolver and hiperface connectors.

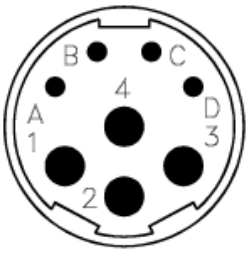
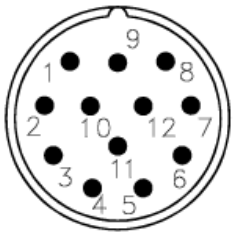
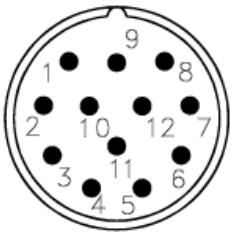
e: Elau pinout

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-SSe-**Ae**-A-A-AAA		HDD09J-Pa-**SSe**-Ae-A-A-AAA					
		May be available on request. Please contact HDD.				May be available on request. Please contact HDD.	
Ae	Straight top			SSe	Single turn		
Be	Angled top			SMe	Multi turn		
Ce	Straight rear			SCe	Hollow shaft single turn		
De	Angled rear						
Ke	Straight front						
Le	Angled front						
Pin				**Pin**			
1	Phase W			1	RefCos		
2	Ground			2	+ RS485		
3	Phase U			3	–		
4	Phase V			4	–		
A	Brake +24V			5	Sin		
B	Brake 0V			6	RefSin		
C	Trip thermistor			7	– RS485		
D	Trip thermistor			8	Cos		
				9	–		
				10	Gnd (0V)		
				11	–		
				12	+VCC (7–11V)		

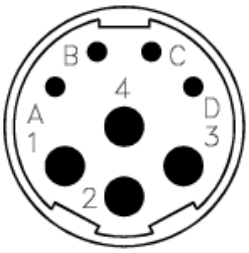
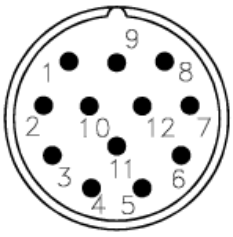
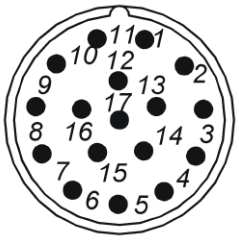
f: Ferrocontrol pin–out

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-SSf-**Af**-A-A-AAA		HDD09J-Pa-**SSf**-Af-A-A-AAA					
		May be available on request. Please contact HDD.				May be available on request. Please contact HDD.	
Af	Straight top			SSf	Single turn		
Bf	Angled top			SMf	Multi turn		
Cf	Straight rear			SCf	Hollow shaft single turn		
Df	Angled rear						
Kf	Straight front						
Lf	Angled front						
Pin				**Pin**			
1	Phase U			1	RefCos		
2	Ground			2	+ RS485		
3	Phase V			3	–		
4	Phase W			4	–		
A	Trip thermistor			5	Sin		
B	Trip thermistor			6	RefSin		
C	Brake +24V			7	– RS485		
D	Brake 0V			8	Cos		
				9	–		
				10	Gnd (0V)		
				11	–		
				12	+VCC (7–11V)		

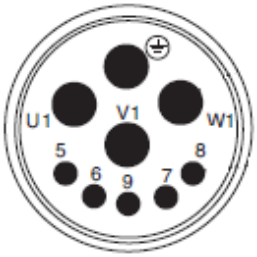
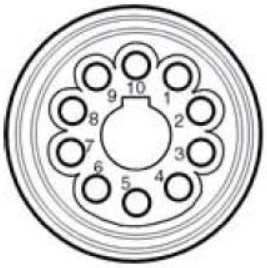
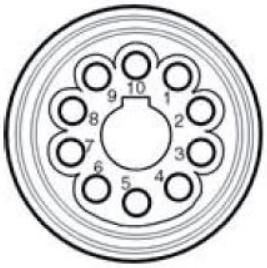
h: AMK pin–out

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ah-**Ah**-A-A-AAA		HDD09J-Pa-**Ah**-Ah-A-A-AAA					
						May be available on request. Please contact HDD.	
Ah	Straight top	Ah	2 poles, 0.5 transf. ratio	SSh	Single turn		
Bh	Angled top	Dh	2 poles, 0.3 transf. ratio	SMh	Multi turn		
Ch	Straight rear			SCh	Hollow shaft single turn		
Dh	Angled rear						
Kh	Straight front						
Lh	Angled front						
Pin		**Pin**		**Pin**			
1	Phase U	1	Sin +	1	Sin +		
2	Ground	2	Sin –	2	RefSin		
3	Phase V	3	Cos +	3	Cos +		
4	Phase W	4	Cos –	4	RefCos		
A	Trip thermistor	5	–	5	–		
B	Trip thermistor	6	–	6	Gnd		
C	Brake +24V	7	–	7	–		
D	Brake 0V	8	Screen	8	Screen		
		9	Exc +	9	+RS485		
		10	Exc –	10	–RS485		
		11	–	11	Us (7–12V)		
		12	–	12	–		

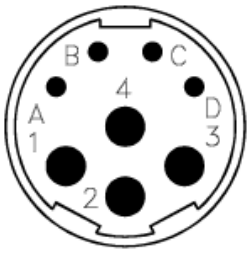
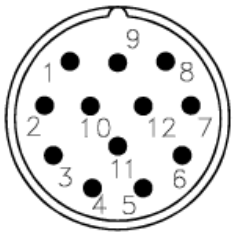
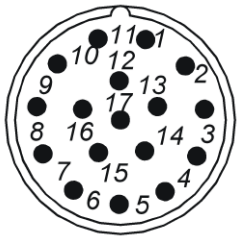
i: Bosch-Rexroth-Indramat pin–out 1

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-SSi-**Ai**-A-A-AAA		HDD09J-Pa-**SSi**-Ai-A-A-AAA					
		May be available on request. Please contact HDD.					
Ai	Straight top			SSi	Single turn	EMi	EQN 1325, 512 lines/rev
Bi	Angled top			SMi	Multi turn	ENi	EQN 1325, 2048 lines/rev
Ci	Straight rear			SCi	Hollow shaft single turn	EQi	ECI 1118
Di	Angled rear					ESi	ECN 1313, 512 lines/rev
Ki	Straight front					ETi	ECN 1313, 2048 lines/rev
Li	Angled front					Without incremental signals:	
						EDi	EBI 135
						EEi	ECN 1325
						EFi	ECN 1337
						Additional Endat types…	
Pin				**Pin**		**Pin**	
1	Phase U			1	+VCC (7–11V)	1	A+ (if incr)
2	Ground			2	Gnd (0V)	2	A– (if incr)
3	Phase W			3	Ref Sin	3	Data+
4	Phase V			4	Ref Cos	4	–
A	Brake +24V			5	Data +	5	Clock+
B	Brake 0V			6	Data –	6	–
C	Trip thermistor			7	Sin +	7	0V
D	Trip thermistor			8	Cos +	8	KTY+
				9	–	9	KTY–
				10	–	10	+5V
				11	–	11	B+ (if incr)
				12	–	12	B– (if incr)
						13	Data–
						14	Clock–
						15	0V sense
						16	+5V sense
						17	Shield

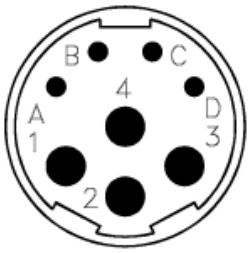
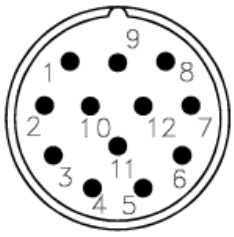
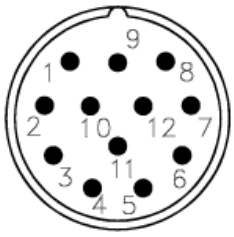
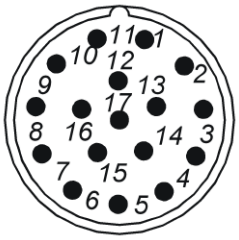
i2: Bosch-Rexroth-Indramat pin–out 2

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-SSi2-**Pi2**-A-A-AAA		HDD09J-Pa-**SSi2**-Pi2-A-A-AAA					
		May be available on request. Please contact HDD.					
Pi2	Straight top			SSi2	Single turn	EMi2	EQN 1325, 512 lines/rev
Qi2	Angled top			SMi2	Multi turn	ENi2	EQN 1325, 2048 lines/rev
Si2	Straight rear			SCi2	Hollow shaft single turn	EQi2	ECI 1118
Ti2	Angled rear					ESi2	ECN 1313, 512 lines/rev
Ui2	Straight front					ETi2	ECN 1313, 2048 lines/rev
Vi2	Angled front					Without incremental signals:	
						EDi2	EBI 135
						EEi2	ECN 1325
						EFi2	ECN 1337
						Additional Endat types…	
Pin				**Pin**		**Pin**	
1	Phase U			1	+VCC Encoder	1	+VCC Encoder
2	Ground			2	GND	2	GND
3	Phase W			3	A+ (if incr)	3	A+ (if incr)
4	Phase V			4	A– (if incr)	4	A– (if incr)
5	KTY84 +			5	B+ (if incr)	5	B+ (if incr)
6	KTY84 –			6	B– (if incr)	6	B– (if incr)
7	Brake +24V			7	Data+	7	Data+
8	Brake 0V			8	Data–	8	Data–
9	–			9	–	9	Clock+
				10	–	10	Clock–

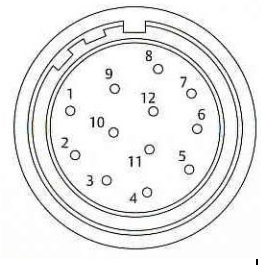
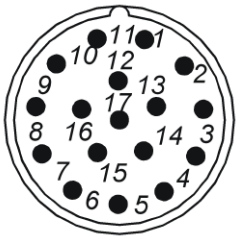
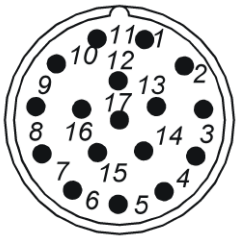
k: Kollmorgen–Seidel pin–out

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ak-**Ak**-A-A-AAA		HDD09J-Pa-**Ak**-Ak-A-A-AAA					
						May be available on request. Please contact HDD.	
Ak	Straight top	Ak	2 poles, 0.5 transf. ratio	SSk	Single turn		
Bk	Angled top	Dk	2 poles, 0.3 transf. ratio	SMk	Multi turn		
Ck	Straight rear			SCk	Hollow shaft single turn		
Dk	Angled rear						
Kk	Straight front						
Lk	Angled front						
Pin		**Pin**		**Pin**			
1	Phase U	1	–	1	RefSin		
2	Ground	2	Trip thermistor	2	Gnd		
3	Phase W	3	Sin S3	3	RefCos		
4	Phase V	4	Cos S4	4	Up +8V		
A	Brake +24V	5	Exc R2	5	+RS485		
B	Brake 0V	6	Trip thermistor	6	–		
C	–	7	Sin S1	7	Trip thermistor		
D	–	8	Cos S2	8	–		
		9	Exc R1	9	Sin		
		10	–	10	–		
		11	–	11	Cos		
		12	–	12	–		
				13	–Rs485		
				14	Trip thermistor		
				15	–		
				16	–		
				17	–		

o: KEB pin–out

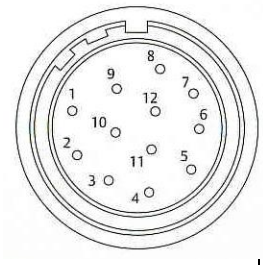
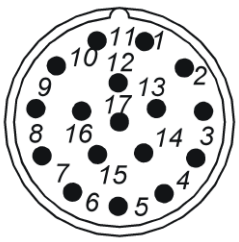
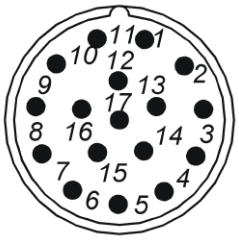
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ao-**Ao**-A-A-AAA		HDD09J-Pa-**Ao**-Ao-A-A-AAA					
							
Ao	Straight top	Ao	2 poles, 0.5 transf. ratio	SSo	Single turn	EMo	EQN 1325, 512 lines/rev
Bo	Angled top	Do	2 poles, 0.3 transf. ratio	SMo	Multi turn	ENo	EQN 1325, 2048 lines/rev
Co	Straight rear			SCo	Hollow shaft single turn	EQo	ECI 1118
Do	Angled rear					ESo	ECN 1313, 512 lines/rev
Ko	Straight front					ETo	ECN 1313, 2048 lines/rev
Lo	Angled front					Without incremental signals:	
						EDo	EBI 135
						EEo	ECN 1325
						EFo	ECN 1337
						Additional Endat types…	
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	SIN–	1	–	1	Sensor (U_P)
2	Ground	2	COS+	2	–	2	–
3	Phase W	3	–	3	–	3	–
4	Phase V	4	–	4	REF_SIN–	4	Sensor (0V)
A	Brake +24V	5	REF+	5	REF_COS–	5	–
B	Brake 0V	6	–	6	Data+	6	–
C	Temp+	7	REF–	7	Data–	7	+5V
D	Temp–	8	–	8	SIN+	8	Clock+
		9	–	9	COS+	9	Clock–
		10	SIN+	10	+ 7.5V	10	COM
		11	COS–	11	COM	11	Shield
		12	–	12	–	12	B+ (if incr)
						13	B– (if incr)
						14	Data+
						15	A+ (if incr)
						16	A– (if incr)
						17	Data–

p: Parker pin–out

Power		**Resolver**		**Endat without incremental signals**		**Endat**	
HDD09J-Pa-Ap-**Ap**-A-A-AAA		HDD09J-Pa-**Ap**-Ap-A-A-AAA					
							
Ep	Straight top	Ap	2 poles, 0.5 transf. ratio	EDp	EBI 135	EMp	EQN 1325, 512 lines/rev
Fp	Angled top	Dp	2 poles, 0.3 transf. ratio	EEp	ECN 1325	ENp	EQN 1325, 2048 lines/rev
Gp	Straight rear			EFp	ECN 1337	EQp	ECI 1118
Hp	Angled rear			EHp	ECI 119	ESp	ECN 1313, 512 lines/rev
Mp	Straight front			EPp	EBI 1135	ETp	ECN 1313, 2048 lines/rev
Np	Angled front			EVp	ECI 1319		
				EWp	EQI 1321		
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	Sin hi S2	1	–	1	A+ (if incr)
2	Phase V	2	Sin lo S4	2	–	2	A– (if incr)
3	Shield	3	–	3	D+	3	D+
4	Brake +24V	4	–	4	–	4	–
5	Brake 0V	5	–	5	C+	5	C+
6	Phase W	6	–	6	–	6	–
		7	Exc lo R2	7	0V	7	0V
		8	Trip thermistor	8	KTY+	8	Trip thermistor
		9	Trip thermistor	9	KTY –	9	Trip thermistor
		10	Exc hi R1	10	+5V	10	+5V
		11	Cos hi S1	11	–	11	B+ (if incr)
		12	Cos lo S3	12	–	12	B– (if incr)
				13	D–	13	D–
				14	C–	14	C–
				15	0V sense	15	0V sense
				16	+5V sense	16	+5V sense
				17	shield	17	shield

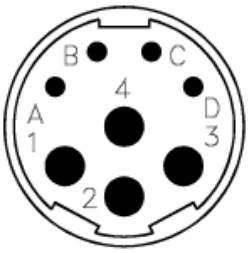
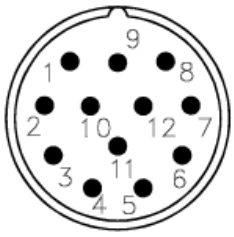
Note: Location of connector key in resolver connectors.

s: Siemens pin–out

Power		**Resolver**		**Endat without incremental signals**		**Endat**	
HDD09J-Pa-As-**As**-A-A-AAA		HDD09J-Pa-**As**-As-A-A-AAA					
							
Es	Straight top	As	2 poles, 0.5 transf. ratio	EDs	EBI 135	EMs	EQN 1325, 512 lines/rev
Fs	Angled top	Ds	2 poles, 0.3 transf. ratio	EEs	ECN 1325	ENs	EQN 1325, 2048 lines/rev
Gs	Straight rear			EFs	ECN 1337	EQs	ECI 1118
Hs	Angled rear			EHs	ECI 119	ESs	ECN 1313, 512 lines/rev
Ms	Straight front			EPs	EBI 1135	ETs	ECN 1313, 2048 lines/rev
Ns	Angled front			EVs	ECI 1319		
				EWs	EQI 1321		
				EYs	ECI 1118		
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	Sin hi S2	1	–	1	A+ (if incr)
2	Phase V	2	Sin lo S4	2	–	2	A– (if incr)
3	Shield	3	–	3	D+	3	D+
4	Brake +24V	4	–	4	–	4	–
5	Brake 0V	5	–	5	C+	5	C+
6	Phase W	6	–	6	–	6	–
		7	Exc lo R2	7	0V	7	0V
		8	KTY+	8	KTY+	8	KTY+
		9	KTY –	9	KTY –	9	KTY –
		10	Exc hi R1	10	+5V	10	+5V
		11	Cos hi S1	11	–	11	B+ (if incr)
		12	Cos lo S3	12	–	12	B– (if incr)
				13	D–	13	D–
				14	C–	14	C–
				15	0V sense	15	0V sense
				16	+5V sense	16	+5V sense
				17	shield	17	shield

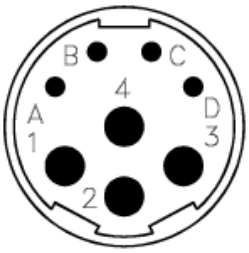
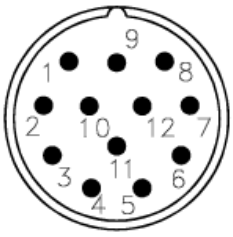
Note: The thermistor is a Siemens–compatible KTY–84 temperature measuring device. For motors with the same pinout but with standard PTC protection thermistor, please refer to the “p” pinout.
Note: Location of connector key in resolver connectors.

u: Baumüller pin–out

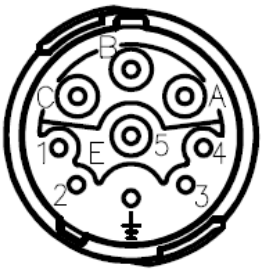
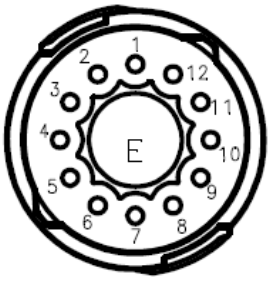
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Au-**Au**-A-A-AAA		HDD09J-Pa-**Au**-Au-A-A-AAA					
				May be available on request. Please contact HDD.		May be available on request. Please contact HDD.	
Au	Straight top	Au	2 poles, 0.5 transf. ratio				
Bu	Angled top	Du	2 poles, 0.3 transf. ratio				
Cu	Straight rear						
Du	Angled rear						
Ku	Straight front						
Lu	Angled front						
Pin		**Pin**					
1	Phase V	1	Cos+ S3				
2	Ground	2	–				
3	Phase U	3	–				
4	Phase W	4	–				
A	Brake +24V	5	Sin– S4				
B	Brake 0V	6	Sin+ S2				
C	–	7	KTY+				
D	–	8	Cos– S1				
		9	KTY –				
		10	Ref– R2				
		11	–				
		12	Ref+ R1				

Note: The thermistor is KTY–84 temperature measuring device

n: Baldor pin–out

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-An-**An**-A-A-AAA		HDD09J-Pa-**An**-An-A-A-AAA					
				May be available on request. Please contact HDD.		May be available on request. Please contact HDD.	
An	Straight top	An	2 poles, 0.5 transf. ratio				
Bn	Angled top	Dn	2 poles, 0.3 transf. ratio				
Cn	Straight rear						
Dn	Angled rear						
Kn	Straight front						
Ln	Angled front						
Pin		**Pin**					
1	Phase U	1	Exc+ R1				
2	Ground	2	Exc– R2				
3	Phase W	3	Cos+ S1				
4	Phase V	4	Cos– S3				
A	Trip thermistor	5	Sin+ S2				
B	Trip thermistor	6	Sin– S4				
C	Brake +24V	7	–				
D	Brake 0V	8	–				
		9	–				
		10	–				
		11	–				
		12	–				

v: YTec pin–out

Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Av-**Y2v**-A-A-AAA		HDD09J-Pa-**Av**-Y2v-A-A-AAA					
				May be available on request. Please contact HDD.		May be available on request. Please contact HDD.	
Y1	Angled top mount	Av	2 poles, 0.5 transf. ratio				
		Dv	2 poles, 0.3 transf. ratio				
Pin		**Pin**					
A	Phase U	1	–				
B	Phase W	2	KTY84-130+				
C	Phase V	3	S4 Cos–				
gnd	Ground	4	S3 Sin–				
1	Brake +24V	5	R2 Exc–				
2	Brake 0V	6	KTY84-130–				
3	–	7	S2 Cos+				
4	–	8	S1 Sin+				
5	–	9	R1 Exc+				
		10	–				
		11	–				
		12	–				