Connector pin-outs

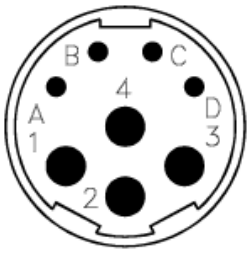
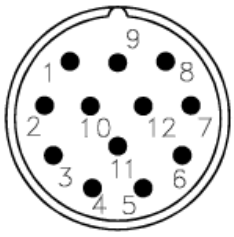
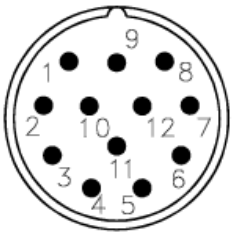
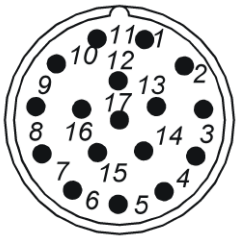
HDD does not manufacture power electronics itself. Instead, the motors can be equipped with different connectors with pinnings that fit standard cables of many major manufacturers of electronic drives. Currently connector pin-out suitable for power electronics from the following manufacturers are supported:

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

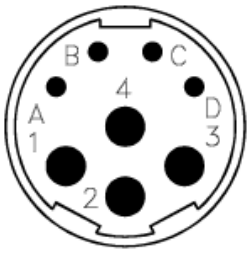
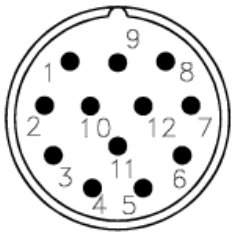
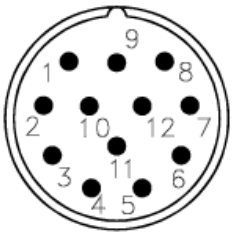
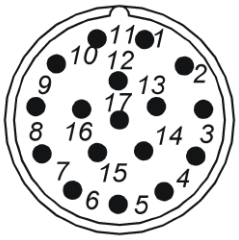
	Pin arrangement	**Mount**	**Sizes**
A	Intercontec 4+3+PE (or 5+PE)	straight top mount	09
B	Intercontec 4+3+PE (or 5+PE)	angled top mount	09
C	Intercontec 4+3+PE (or 5+PE)	straight rear mount	14
D	Intercontec 4+3+PE (or 5+PE)	angled rear mount	14
E	Intercontec 5+PE	straight top mount	09
F	Intercontec 5+PE	angled top mount	09
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
Q	Intercontec 3+5+PE	angled top mount	09
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.

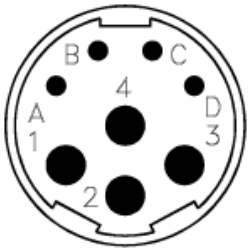
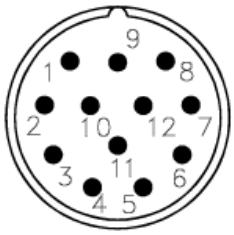
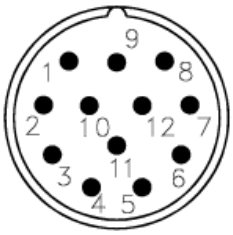
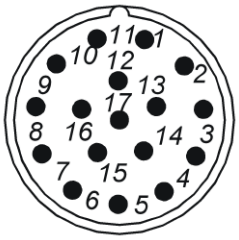
HDD Standard pin–out

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	ES	Single turn, 512 lines/rev
B	Angled top	D	2 poles, 0.3 transf. ratio	SM	Multi turn	EM	Multi turn, 512 lines/rev
C	Straight rear			SC	Hollow shaft single turn	ET	Single turn, 2048 lines/rev
D	Angled rear					EN	Multi turn, 2048 lines/rev
K	Straight front					EA	Single turn, 32 ppr (17 bit)
L	Angled front					EB	Multi turn, 32 ppr (17 bit)
X	Special					EF	Multi turn, 23 bits/rev, SIL2, no incr signals
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

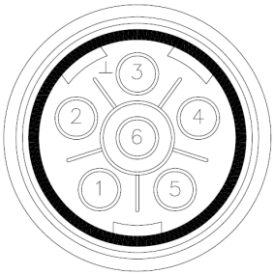
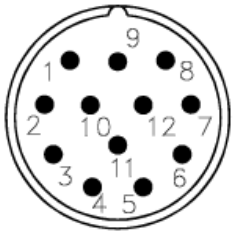
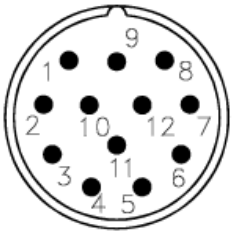
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Az-**Az**-A-A-AAA		HDD09J-Pa-**Az**-Az-A-A-AAA					
							
Az	Straight top	Az	2 poles, 0.5 transf. ratio	SSz	Single turn	ESz	Single turn, 512 lines/rev
Bz	Angled top	Dz	2 poles, 0.3 transf. ratio	SMz	Multi turn	EMz	Multi turn, 512 lines/rev
Cz	Straight rear			SCz	Hollow shaft single turn	ETz	Single turn, 2048 lines/rev
Dz	Angled rear					ENz	Multi turn, 2048 lines/rev
Kz	Straight front					EAz	Single turn, 32 ppr (17 bit)
Lz	Angled front					EBz	Multi turn, 32 ppr (17 bit)
Xz	Special					EFz	Multi turn, 23 bits/rev, SIL2, no incr signals
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

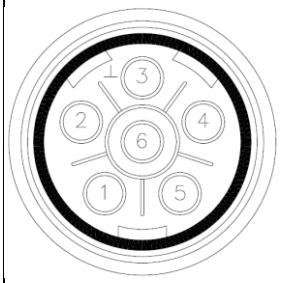
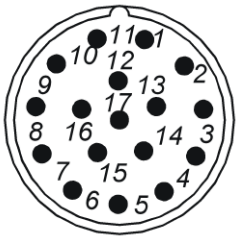
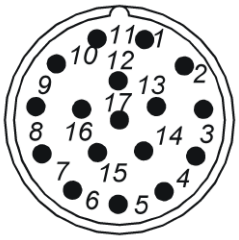
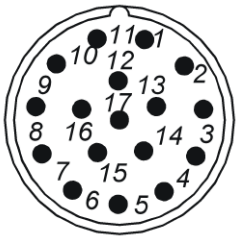
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-At-**At**-A-A-AAA		HDD09J-Pa-**At**-At-A-A-AAA					
							
At	Straight top	At	2 poles, 0.5 transf. ratio	SSt	Single turn	ESt	Single turn, 512 lines/rev
Bt	Angled top	Dt	2 poles, 0.3 transf. ratio	SMt	Multi turn	EMt	Multi turn, 512 lines/rev
Ct	Straight rear			SCt	Hollow shaft single turn	ETt	Single turn, 2048 lines/rev
Dt	Angled rear					ENt	Multi turn, 2048 lines/rev
Kt	Straight front					EAt	Single turn, 32 ppr (17 bit)
Lt	Angled front					EBt	Multi turn, 32 ppr (17 bit)
Xt	Special					EFt	Multi turn, 23 bits/rev, SIL2, no incr signals
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.

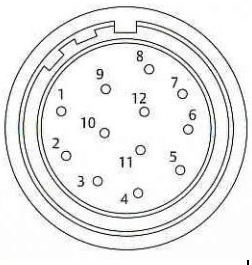
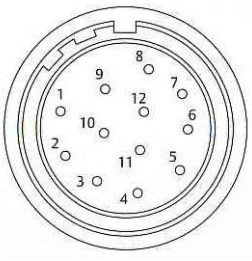
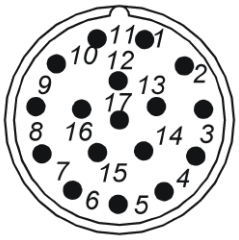
b: Infranor pin–out 1

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

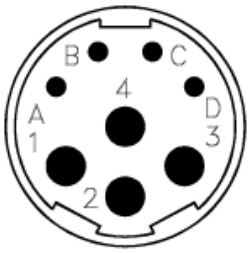
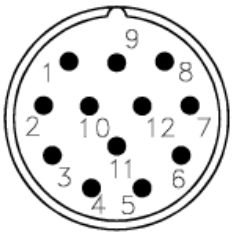
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ab2-**Eb2**-A-A-AAA		HDD09J-Pa-**Ab2**-Eb2-A-A-AAA					
							
Eb2	Straight top	Ab2	2 poles, 0.5 transf. ratio	SSb2	Single turn	ESb2	Single turn, 512 lines/rev
Fb2	Angled top	Db2	2 poles, 0.3 transf. ratio	SMb2	Multi turn	EMb2	Multi turn, 512 lines/rev
Gb2	Straight rear			SCb2	Hollow shaft single turn	ETb2	Single turn, 2048 lines/rev
Hb2	Angled rear					ENb2	Multi turn, 2048 lines/rev
Mb2	Straight front					EAb2	Single turn, 32 ppr (17 bit)
Nb2	Angled front					EBb2	Multi turn, 32 ppr (17 bit)
						EFb2	Multi turn, 23 bits/rev, SIL2, no incr signals
Pin		**Pin**		**Pin**		**Pin**	
1	Phase W	1	Sin+ S2	1	Sin+	1	A+
2	Phase U	2	Sin– S4	2	Sin–	2	A–
3	Ground	3	Cos+ S3	3	Cos+	3	B+
4	Phase V	4	Cos– S1	4	Cos–	4	B–
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

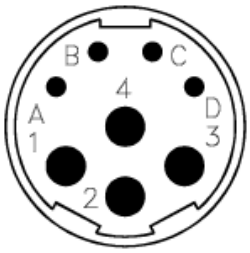
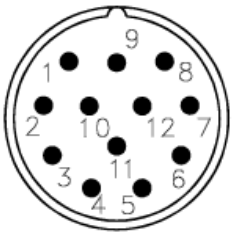
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ac-**Ec**-A-A-AAA		HDD09J-Pa-**Ac**-Ec-A-A-AAA					
							
Ec	Straight top	Ac	2 poles, 0.5 transf. ratio	SSc	Single turn	ESc	Single turn, 512 lines/rev
Fc	Angled top	Dc	2 poles, 0.3 transf. ratio	SMc	Multi turn	EMc	Multi turn, 512 lines/rev
Gc	Straight rear			SCc	Hollow shaft single turn	ETc	Single turn, 2048 lines/rev
Hc	Angled rear					ENc	Multi turn, 2048 lines/rev
Mc	Straight front					EAc	Single turn, 32 ppr (17 bit)
Nc	Angled front					EBc	Multi turn, 32 ppr (17 bit)
						EFc	Multi turn, 23 bits/rev, SIL2, no incr signals
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.

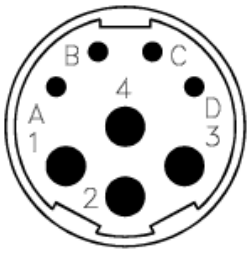
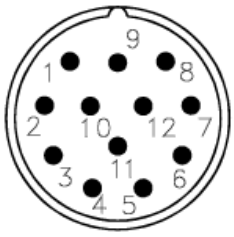
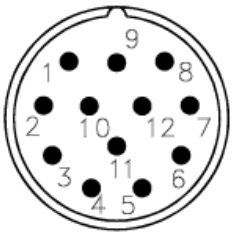
e: Elau pinout

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)		

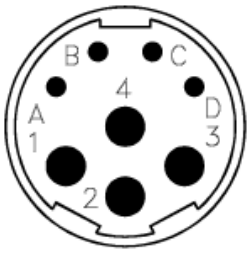
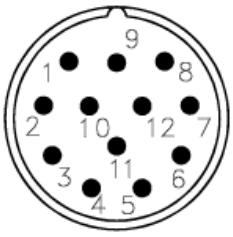
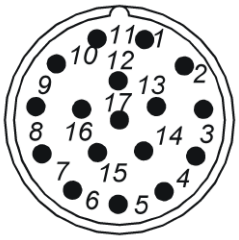
f: Ferrocontrol pin–out

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)		

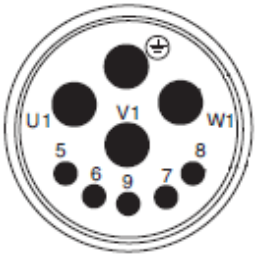
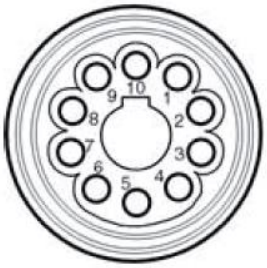
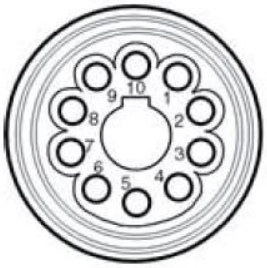
h: AMK pin–out

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	–		

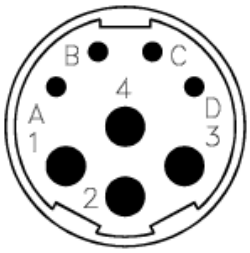
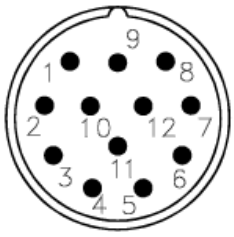
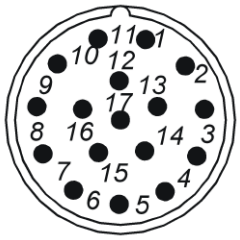
i: Bosch-Rexroth-Indramat pin–out 1

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	ESi	Single turn, 512 lines/rev
Bi	Angled top			SMi	Multi turn	EMi	Multi turn, 512 lines/rev
Ci	Straight rear			SCi	Hollow shaft single turn	ETi	Single turn, 2048 lines/rev
Di	Angled rear					ENi	Multi turn, 2048 lines/rev
Ki	Straight front					EAi	Single turn, 32 ppr (17 bit)
Li	Angled front					EBi	Multi turn, 32 ppr (17 bit)
						EFi	Multi turn, 23 bits/rev, SIL2, no incr signals
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

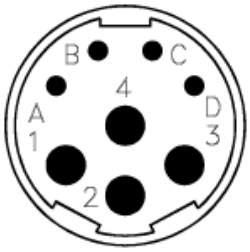
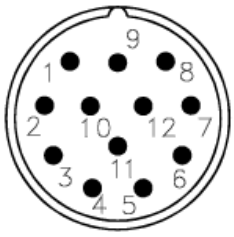
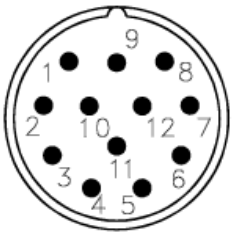
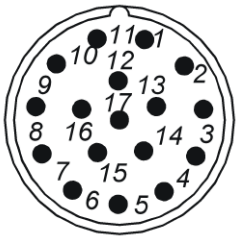
i2: Bosch-Rexroth-Indramat pin–out 2

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	ESi2	Single turn, 512 lines/rev
Qi2	Angled top			SMi2	Multi turn	EMi2	Multi turn, 512 lines/rev
Si2	Straight rear			SCi2	Hollow shaft single turn	ETi2	Single turn, 2048 lines/rev
Ti2	Angled rear					ENi2	Multi turn, 2048 lines/rev
Ui2	Straight front					EAi2	Single turn, 32 ppr (17 bit)
Vi2	Angled front					EBi2	Multi turn, 32 ppr (17 bit)
						EFi2	Multi turn, 23 bits/rev, SIL2, no incr signals
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–

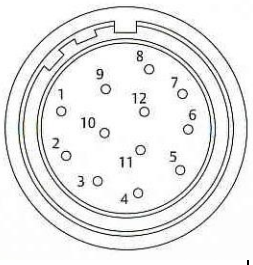
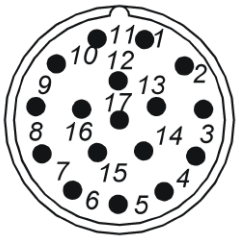
k: Kollmorgen–Seidel pin–out

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

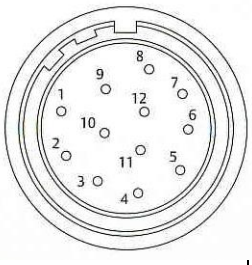
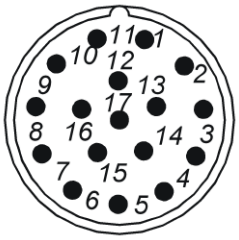
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Ao-**Ao**-A-A-AAA		HDD09J-Pa-**Ao**-Ao-A-A-AAA					
							
Ao	Straight top	Ao	2 poles, 0.5 transf. ratio	SSo	Single turn	ESo	Single turn, 512 lines/rev
Bo	Angled top	Do	2 poles, 0.3 transf. ratio	SMo	Multi turn	EMo	Multi turn, 512 lines/rev
Co	Straight rear			SCo	Hollow shaft single turn	ETo	Single turn, 2048 lines/rev
Do	Angled rear					ENo	Multi turn, 2048 lines/rev
Ko	Straight front					EAo	Single turn, 32 ppr (17 bit)
Lo	Angled front					EBo	Multi turn, 32 ppr (17 bit)
						EFo	Multi turn, 23 bits/rev, SIL2, no incr signals
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**		**Hiperface**		**Endat**	
HDD09J-Pa-Ap-**Ap**-A-A-AAA		HDD09J-Pa-**Ap**-Ap-A-A-AAA					
				May be available on request. Please contact HDD.			
Ep	Straight top	Ap	2 poles, 0.5 transf. ratio			ESp	Single turn, 512 lines/rev
Fp	Angled top	Dp	2 poles, 0.3 transf. ratio			EMp	Multi turn, 512 lines/rev
Gp	Straight rear					ETp	Single turn, 2048 lines/rev
Hp	Angled rear					ENp	Multi turn, 2048 lines/rev
Mp	Straight front					EAp	Single turn, 32 ppr (17 bit)
Np	Angled front					EBp	Multi turn, 32 ppr (17 bit)
						EFp	Multi turn, 23 bits/rev, SIL2, no incr signals
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	Sin hi S2			1	A+ (if incr)
2	Phase V	2	Sin lo S4			2	A– (if incr)
3	Shield	3	–			3	D+
4	Brake +24V	4	–			4	–
5	Brake 0V	5	–			5	C+
6	Phase W	6	–			6	–
		7	Exc lo R2			7	0V
		8	Trip thermistor			8	Trip thermistor
		9	Trip thermistor			9	Trip thermistor
		10	Exc hi R1			10	+5V
		11	Cos hi S1			11	B+ (if incr)
		12	Cos lo S3			12	B– (if incr)
						13	D–
						14	C–
						15	0V sense
						16	+5V sense
						17	shield

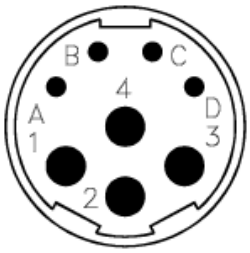
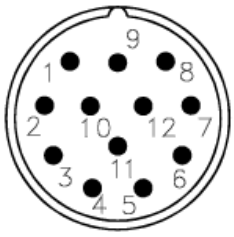
Note: Location of connector key in resolver connectors.

s: Siemens pin–out

Power		**Resolver**		**Endat SIL2**		**Endat**	
HDD09J-Pa-As-**As**-A-A-AAA		HDD09J-Pa-**As**-As-A-A-AAA					
				May be available on request. Please contact HDD.			
Es	Straight top	As	2 poles, 0.5 transf. ratio			ESs	Single turn, 512 lines/rev
Fs	Angled top	Ds	2 poles, 0.3 transf. ratio			EMs	Multi turn, 512 lines/rev
Gs	Straight rear					ETs	Single turn, 2048 lines/rev
Hs	Angled rear					ENs	Multi turn, 2048 lines/rev
Ms	Straight front					EAs	Single turn, 32 ppr (17 bit)
Ns	Angled front					EBs	Multi turn, 32 ppr (17 bit)
						EFs	Multi turn, 23 bits/rev, SIL2, no incr signals
Pin		**Pin**		**Pin**		**Pin**	
1	Phase U	1	Sin hi S2			1	A+ (if incr)
2	Phase V	2	Sin lo S4			2	A– (if incr)
3	Shield	3	–			3	D+
4	Brake +24V	4	–			4	–
5	Brake 0V	5	–			5	C+
6	Phase W	6	–			6	–
		7	Exc lo R2			7	0V
		8	KTY+			8	KTY+
		9	KTY –			9	KTY –
		10	Exc hi R1			10	+5V
		11	Cos hi S1			11	B+ (if incr)
		12	Cos lo S3			12	B– (if incr)
						13	D–
						14	C–
						15	0V sense
						16	+5V sense
						17	shield

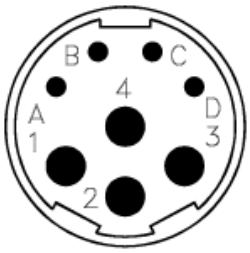
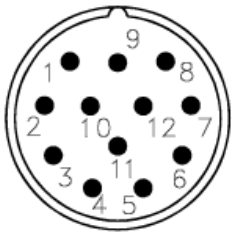
Note: The thermistor is a Siemens–compatible KTY–84 temperature measuring device. For motors with the same pinout but with standard PTC protection thermistor, please refer to the “p” pinout.
Note: Location of connector key in resolver connectors.

u: Baumüller pin–out

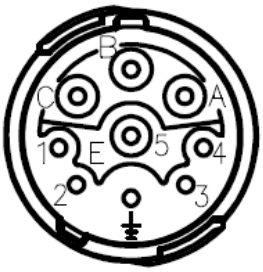
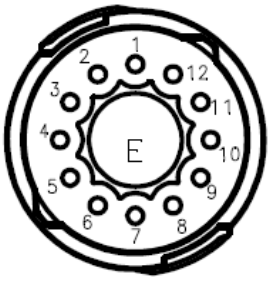
Power		**Resolver**		**Hiperface**		**Endat**	
HDD09J-Pa-Au-**Au**-A-A-AAA		HDD09J-Pa-**Au**-Au-A-A-AAA					
				May be available on request. Please contact HDD.		May be available on request. Please contact HDD.	
Au	Straight top	Au	2 poles, 0.5 transf. ratio				
Bu	Angled top	Du	2 poles, 0.3 transf. 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	–				