

QUICK REFERENCE GUIDE



Quick Reference - Incremental

	SHAFTED				
	GP 	GP 	GP 	IND 	HD 
Product	E12	E14	E14IC	H20	HD20
Encoder Size	1.2"	1.4"	1.4"	2.0"	2.0"
Mounting Type	Shafted	Shafted	Shafted	Shafted	Shafted
Shaft/Bore Size	1/8"	1/8" or 1/4"	1/4" or 3/8"	1/4", 3/8" or 10mm	3/8" or 10mm
Resolutions (PPR)	250 - 1024	100 - 2540	100 - 2540	1 - 2540	1 - 3600
Input Voltage (VDC)	5, 12, 15	5, 12, 15	5, 12, 15	5-26	5-26
Operating Temperature (°C)	0 to +70	0 to +70	0 to +70	0 to +70 (-40 to +85 opt.)	-40 to +100
Enclosure Rating	NEMA 12/IP54	NEMA 12/IP54	NEMA 12/IP54	NEMA 12/IP54 (NEMA 4/IP66 opt.)	IP67
Shock/ Vibration	N/A	N/A	N/A	50g / 20g	50g / 20g
Sensing Engine	Optical	Optical	Optical	Optical	Optical
Certifications	RoHS	RoHS	RoHS	CE, RoHS	CE, RoHS
Special Features	Sub-Compact 1.2" Diameter	Rugged Metal Housing	Integrated Coupling	Reliable Dual-Row Bearing Design	Unbreakable Code Disc and Special Housing and Seals
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	SHAFTED						
	IND 	IND 	IND 	IND 	IND 	IND 	IND 
Product	HA25	HC25	HR25	HA26	HC26	HR26	H42
Encoder Size	2.5"	2.5"	2.5"	2.5"	2.5"	2.5"	2.5"
Mounting Type	Shafted	Shafted	Shafted	Shafted	Shafted	Shafted	Shafted
Shaft/Bore Size	1/4" or 3/8"	1/4" or 3/8"	1/4" or 3/8"	1/4", 3/8" or 1/2"	1/4", 3/8" or 1/2"	1/4", 3/8" or 1/2"	3/8"
Resolutions (PPR)	1 - 2540	3000 - 5000	1 - 1024	1 - 2540	3000 - 5000	1 - 1024	1 - 600
Input Voltage (VDC)	5-26	5-26	5-26	5-26	5-26	5-26	5-26
Operating Temperature (°C)	0 to +70 (-40 to +85 opt.)	0 to +70 (-40 to +85 opt.)	0 to +70 (-40 to +85 opt.)	0 to +70 (-40 to +85 opt.)	0 to +70 (-40 to +85 opt.)	0 to +70 (-40 to +85 opt.)	0 to +70
Enclosure Rating	NEMA 12/IP54 (NEMA 4/IP66 opt.)	NEMA 12/IP54 (NEMA 4/IP66 opt.)	NEMA 12/IP54 (NEMA 4/IP66 opt.)	NEMA 12/IP54	NEMA 12/IP54	NEMA 12/IP54	NEMA 12/IP54
Shock/ Vibration	50g / 20g	50g / 20g	50g / 20g	50g / 20g	50g / 20g	50g / 20g	50g / 20g
Sensing Engine	Optical	Optical	Optical	Optical	Optical	Optical	Optical
Certifications	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS
Special Features	Wide Range of Resolutions Available	High 5000 PPR Capability	Unbreakable Code Disc	Integral Coupling and Flange	High 5000 PPR Resolution Capability	Unbreakable Code Disc	Simplified Economical Design
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SHAFTED							
							
NexGen Qube	H58	E23	EC23	HD25	HA725		Product
2.25"	58mm	2.3"	2.3"	2.5"	2.5"		Encoder Size
Shafted	Shafted	Shafted	Shafted	Shafted	Shafted		Mounting Type
6mm, 1/4" or 3/8"	6 or 10mm	1/4"	1/4"	3/8", 10mm, or 12mm	3/8"		Shaft/Bore Size
1 - 3600	1 - 2540	1 - 2540	3000 - 5000	1 - 5000	8192 - 10,000		Resolutions PPR
5-26	5-26	5-26	5-26	5-26	5 or 10-30		Input Voltage (VDC)
-40 to +100	0 to +70 (-40 to +85 opt.)	0 to +70	0 to +70	-40 to +100	0 to +70		Operating Temperature (°C)
IP67 with shaft seals	NEMA 12/IP54 (NEMA 4/IP66 opt.)	NEMA 12/IP54	NEMA 12/IP54	IP67	NEMA 4/IP66		Enclosure Rating
100g / 20g	50g / 20g	50g / 2g	50g / 20g	50g / 20g	50g / 2g		Shock/ Vibration
Optical	Optical	Optical	Optical	Optical	Optical		Sensing Engine
CE, RoHS	CE, RoHS	RoHS	RoHS	CE, RoHS	CE, RoHS		Certifications
Economical Anodized Housing	Euro-Standard 58mm Mounting	Screw Terminal Connections	High 5000 PPR Capability	Dual Isolated Outputs Available	Direct-Read Resolution up to 10,000 PPR		Special Features
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SHAFTED							
							
60 Rotopulser	60P Rotopulser	H56 Rotopulser	HD35R	Rim Tach NexGen 6200	Rim Tach 6200		Product
3.5" servo mount	4.5" C-Face or Foot Mount	4.5" C-Face or Foot Mount	110mm IEC Euro Flange	4.5" C-Face or Foot Mount	4.5" C-Face or Foot Mount		Encoder Size
Shafted	Shafted	Shafted	Shafted	Shafted	Shafted		Mounting Type
1/4" or 1/2"	5/8" Shaft (Single or Dual)	5/8"	11mm	5/8"	5/8"		Shaft/Bore Size
1 - 2500	1 - 2500	1 - 5000	1 - 5000	60 - 2400	60 - 1200		Resolutions (PPR)
5-15	5-15	5-26	5-26	5-26	5-26		Input Voltage (VDC)
0 to +54	0 to +54	-40 to +80	-40 to +85	-40 to +100	-40 to +70		Operating Temperature (°C)
NEMA 12/IP54	NEMA 12/IP54 NEMA 4/IP66 opt	NEMA 4/ IP66	IP67	NEMA 4 & 12, IP65 at Connector	NEMA 4 & 12, IP65 at Connector		Enclosure Rating
N/A	N/A	50g / 2.5g	400g / 20g	30g / 18g	30g / 18g		Shock/ Vibration
Optical	Optical	Optical	Optical	Magnetic	Magnetic		Sensing Engine
N/A	N/A	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS		Certifications
Dual Shaft Output Option	Mill-Duty Foot or Face Mount Design	Large Outer Bearings Isolate Shaft Loads	Improved Seal Design for Increased Moisture Resistance	Delivers a 70 Thousandths Air Gap; Replaceable Sensors	Foot-Mount or 56-C Face Mount		Special Features
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	HUB-SHAFT			HUB-SHAFT		
Product	E14H	H20 Hubshaft	HSD25	RR25	HSD44	HSD44M
Encoder Size	1.4"	2.0"	2.5"	2.5"	4.4"	4.4"
Mounting Type	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft
Shaft/Bore Size	1/4" to 5/8", 6mm to 14mm	1/4", 3/8", 1/2" or 5/8"	6mm - 19mm or 1/4" - 3/4"	1" or 1-1/8"	16mm	16mm
Resolutions (PPR)	100 - 2540	1 - 2540	1 - 3600	180 - 512	15 - 5000	15 - 5000
Input Voltage (VDC)	5, 12, 15	5-26	5-26	5-28	5-30	5-30
Operating Temperature (°C)	0 to +70	0 to +70 (-40 to +85 opt.)	-40 to +100	-20 to +85	-30 to +100	-30 to +100
Enclosure Rating	NEMA 12/IP54	NEMA 12/IP54 (NEMA 4/ IP66 opt.)	IP67	IP67	NEMA 6	NEMA 6
Shock/ Vibration	N/A	50g / 20g	50g / 20g	50g / 10g	400g / 20g	400g / 20g
Sensing Engine	Optical	Optical	Optical	Magnetic	Optical	Magnetic
Certifications	RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS
Special Features	Hub Shaft with Flex Tether	Hub Shaft with Spring Tether	Field Replaceable Shaft Isolators	Corrosion Resistant Construction; Ideal for the Ag Industry	For use in Heavy-Rail Traction Drive Applications	For use in Heavy-Rail Traction Drive Applications
Page Number	1.71	1.73	1.77	1.81	1.83	1.85

	HOLLOW-SHAFT							
Product	HS35R	HS35M	HSD37	HSD35	HSD35M	HSD38	Slim Tach HS56	Slim Tach HS60
Encoder Size	3.75"	3.75"	3.75"	3.8"	3.8"	3.8"	5.5"	5.5"
Mounting Type	Hollow-Shaft	Hollow-Shaft	Hollow-Shaft	Hollow-Shaft	Hollow-Shaft	Hollow-Shaft	Hollow Shaft	Hollow Shaft
Shaft/Bore Size	6mm to 28mm 1/4" to 1-1/4"	6mm to 28mm 1/4" to 1-1/4"	6mm - 25mm or 1/4" - 1"	6mm - 28mm, or 1/4" - 1 1/4"	6mm - 28mm, or 1/4" - 1 1/4"	12mm - 20mm or 1/2" - 1"	5/8" - 1 1/8"	1 1/8" - 2 7/8"
Resolutions (PPR)	1 - 5000	256, 512, 1024, 2048	15 - 5000	1 - 5000	256, 512, 1024, 2048	15 - 5000	64 - 2048	64 - 2048
Input Voltage (VDC)	5-26	5-26	5-26	5-26	5-26	5-26	5-26	5-26
Operating Temperature (°C)	-40 to 85 (-40 to +100 opt.)	-40 to +120	-40 to +100	-40 to +100	-40 to +120	-40 to +100	-20 to 80	-20 to 80
Enclosure Rating	IP67	IP67	IP67	IP67 (IP64 at Shaft Speeds Above 5000 RPM)	IP67 (IP64 at Shaft Speeds Above 5000 RPM)	IP67	NEMA 4 &12, IP65	NEMA 4 &12, IP65
Shock/ Vibration	400g / 20g	400g / 20g	400g / 20g	400g / 20g	400g / 20g	50g / 20g	30g / 18g	30g / 18g
Sensing Engine	Optical	Magnetic	Optical	Optical	Magnetic	Optical	Magnetic	Magnetic
Certifications	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS
Special Features	Shock Resistant to 400g	Top of the line Vector Duty Encoder now available in Magnetic	Operates in High Shock and Vibration Environments	Stainless Steel Clamp and Hub Shaft for Mill Duty	Mill Duty Encoder now available in Magnetic	Electrically & Thermally Isolated Hollow shaft	Ideal for TEFC AC Motor Mounting	Encapsulated Electronics Resist Moisture and Contamination
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HOLLOW-SHAFT

SSM	SSM	SSM	SSM	IND	SSM	
F10	F15	F14	F18	HS20	HC20	Product
1.25"	1.4"	1.55"	1.96"	2.0"	2.0"	Encoder Size
Hollow Shaft	Hollow Shaft	Hollow Shaft	Hollow Shaft	Hollow-Shaft	Hollow Shaft	Mounting Type
6mm	3/8"	1/4", 6mm, 8mm	1/4" to 1/2" 6 to 12mm	1/4" to 5/8" 6mm to 16mm	6mm, 8mm	Shaft/Bore Size
1024 - 2048	1024 - 2048	1000 - 5000	500 - 4096	50 - 2540	500 - 2500	Resolutions (PPR)
5	5	5	5	5-26	5-26	Input Voltage (VDC)
0 to +120	0 to +120	0 to +120	0 to +120	0 to +70 (-40 to +85 opt.)	0 to +120	Operating Temperature (°C)
N/A	N/A	NEMA 1/ IP40 (w/cover)	NEMA 1/ IP40 (w/cover)	NEMA 4/IP65	IP51	Enclosure Rating
N/A	N/A	N/A	N/A	50g / 2.5g	N/A	Shock/ Vibration
Optical	Optical	Optical	Optical	Optical	Optical	Sensing Engine
CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	Certifications
Compact 1.0" Diameter Servo Ring Mount	Industry Standard Size 15 Servo Mounting	Non-Marring Hollow Shaft	Under 2.0" Dia Package with High 4096 PPR Capability	Electrically Isolated Hollow Shaft	Economical Servomotor Feedback	Special Features
1.87	1.89	1.91	1.93	1.95	1.99	Page Number

SPECIALTY

MODULAR / KIT

HD	HD	SSM	SSM	SSM	SSM	SSM	
Rim Tach HS85	DWD38	E9	M9	M15	M53	M602/M832	Product
14"	3.75"	0.9"	0.9"	1.6"	2.0"	NA	Encoder Size
Hollow Shaft	Specialty Hollow Shaft	Modular/Kit	Modular/Kit	Modular/Kit	Modular/Kit	Modular/Kit	Mounting Type
1 1/8" - 4 1/2" or 25mm - 70mm	1"-14UNS x 5/8"-18 Threaded Shaft or 1" 14UNS Threaded Shaft	1.5 to 4mm, .125", .156"	1.5 to 4mm, .125", .156"	1/8" or 3/8" 6 to 10mm	1/4" to 1/2" 6 to 12mm	1/4", 3/8", 6mm, 8mm, 10mm	Shaft/Bore Size
60 - 2048	15 - 5000	100 - 512	100 - 512	200 - 1024	500 - 2048	1 - 5000	Resolutions (PPR)
5-26	5-26	5	5	5	5 or 12	5	Input Voltage (VDC)
-20 to +70	-40 to +100	-20 to +100	-20 to +100	0 to +120	0 to +120	-40 to +100	Operating Temperature (°C)
NEMA 4 & 12, IP65	IP67	N/A	N/A	NEMA 1/ IP50 (with cover)	NEMA 1/ IP50 (w/cover)	Unsealed Housing	Enclosure Rating
30g / 18g	400g / 20g	N/A	N/A	N/A	N/A	N/A	Shock/ Vibration
Magnetic	Optical	Optical	Optical	Optical	Optical	Optical	Sensing Engine
CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	RoHS	Certifications
Hollow Shaft Design Mounts Easily to Large Motor Shafts	Stackable Encoder Options Available	Super-Compact Size for Small Motors	Up to 512 PPR Resolution	Easy Installation Without Special Tools	Up to 2048 PPR with Commutation Tracks	Tool-Less Gapping	Special Features
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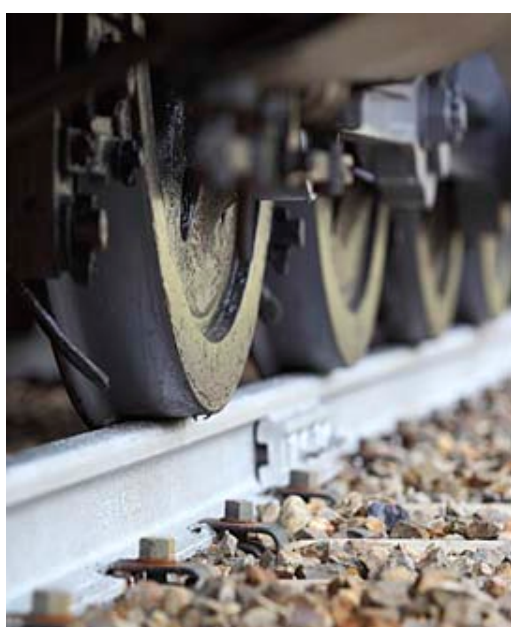
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	BEARINGLESS						
	HD	HD	HD	HD	HD	HD	HD
Product	HDP18	HDP30	HDN58	R45 Rotopulser	Slim Tach NexGen ST56	Slim Tach SL56	Slim Tach NexGen ST67
Encoder Size	18mm	30mm	58mm	4.5" C-Face	4.5" C-Face	4.5" C-Face	4.5" C-Face
Mounting Type	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless
Shaft/Bore Size	1/2" to 1 1/2"	1/2" to 1 1/2"	1/2" to 1 1/2"	5/8" or 7/8"	5/8" - 2 7/8" or 16mm - 80mm	5/8" - 2 7/8"	5/8" - 2 7/8" or 16mm - 80mm
Resolutions (PPR)	256	8 - 512	8 - 512	60	64 - 2048	64 - 1024	64 - 2048
Input Voltage (VDC)	6-30	6-30	6-30	5-26	5-26	5-26	5-26
Operating Temperature (°C)	-25 to +80	-25 to +80	-25 to +70	-40 to +85	-40 to +100 Extended -40 to +120	-40 to +90 Extended -40 to +100	-40 to +100 Extended -40 to +120
Enclosure Rating	IP68	IP68	Connector Dependent IP65, IP67 or IP68	N/A	NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector
Shock/ Vibration	N/A	N/A	50g / 10g	20g / 2.5g	300g / 20g	30g / 18g	300g / 20g
Sensing Engine	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic
Certifications	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS
Special Features	Incremental & Absolute Output's Available; Completely Sealed & Encapsulated Electronics	Incremental & Absolute Output's Available; CAN SAE J1939 Communication Protocol	Incremental & Absolute Output's Available; Wide Sensing Envelope is Tolerant to Misalignment	56C-face Ring Kit Motor Mounting and Field-Replaceable Readhead for Easy Service	Mounts to 56 and 140 C-Face Motors; Replaceable Wheels	Mounts to 56 and 140 C-Face Motors; Thin Profile Can be Sandwiched Between Motor & Reducer	Mounts to Reliance 6.75 Recess, 56 and 140 C-Face Motors; Replaceable Wheels
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NOTE: Additional bore sizes available for all RIM Tach and SLIM Tach models, please consult factory.



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BEARINGLESS								
								Product
Slim Tach RL67	Slim Tach NexGen ST85	Slim Tach SL85	Rim Tach NexGen 8500	Rim Tach 8500	Rim Tach NexGen 1250	Rim Tach 1250	Slim Tach SL1250	Encoder Size
4.5" C-Face	8.5" C-Face	8.5" C-Face	8.5" C-Face	8.5" C-Face	12.5" C-Face	12.5" C-Face	12.5" C-Face	Mounting Type
Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	Shaft/Bore Size
5/8" - 2 7/8"	5/8" - 2 7/8" or 16mm - 80mm	5/8" - 2 7/8"	5/8" - 2 7/8" or 16mm - 80mm	5/8" - 2 7/8"	5/8" - 2 7/8" or 16mm - 80mm	5/8" - 2 7/8"	5/8" - 2 7/8" or 16mm - 80mm	Resolutions (PPR)
64 - 1024	64 - 2048	64 - 1024	60 - 2400	60 - 1200	60 - 2400	60 - 1200	64 - 1024	Input Voltage (VDC)
5-26	5-26	5-26	5-26	5-26	5-26	5-26	5-26	Operating Temperature (°C)
-40 to +90 Extended -40 to +100	-40 to +100 Extended -40 to +120	-40 to +90 Extended -40 to +100	-40 to +100	-40 to +90 Extended -40 to +100	-40 to +100	-40 to +80	-40 to +90 Extended -40 to +100	Enclosure Rating
NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector	NEMA 4&12, IP65 at Connector	Shock/ Vibration
30g / 18g	300g / 20g	30g / 18g	200g / 18g	30g / 18g	200g / 18g	30g / 18g	30g / 18g	Sensing Engine
Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Certifications
CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	Special Features
Mounts to Reliance Motors (6.75 fit and 56 and 140 C-Face); Large Air Gap of 0.060	Mounts to 180 C-Face Motors; Replaceable Wheels	Mounts to 180 C-Face Motors; Dual C-Face Versions Available	Circuitry for On-Board Diagnostics with LED and Alarm; Replaceable Wheels and Sensors	Mounts to 180-C Face Motors	Circuitry for On-Board Diagnostics with LED and Alarm; Replaceable Wheels and Sensors	Mounts to 250-C Face Motors (12.5 Diameter Mounting Flange)	Mounts to 250-C Face Motors; Requires only 1.4" of Motor Shaft	Page Number
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Quick Reference - Absolute

	SHAFTED						
	SSM	SSM	IND	IND	IND	IND	IND
Product	AD34	AD25	AI25	AI25	AI25	AI25	AI25
Protocols	BiSS, SSI	BiSS, SSI	BiSS	CANOpen	CANLayer2	DeviceNet	EtherCAT
Encoder Size	37.5 mm	58 mm	58 mm, or 2.5"	58 mm, or 2.5"	58 mm, or 2.5"	58 mm, or 2.5"	58 mm, or 2.5"
Mounting Type	Shafted	Shafted	Shafted	Shafted	Shafted	Shafted	Shafted
Shaft/Bore Size	6mm	10mm	6mm & 10mm & 3/8"	6mm & 10mm & 3/8"	6mm & 10mm & 3/8"	6mm & 10mm & 3/8"	6mm & 10mm & 3/8"
Resolutions (PPR)	Up to 19 bit Single-Turn	Up to 22 bit Single-Turn, 12 bit Multi-Turn	Up to 22 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 22 bit Single-Turn, 12 bit Multi-Turn
Input Voltage (VDC)	5 or 7-30	5	5 or 10-30	10-30	10-30	10-30	7-30
Operating Temperature (°C)	-15 to +120	-15 to +120	-40 to +100	-40 to +85	-40 to +85	-40 to +85	-40 to +85
Enclosure Rating	IP40	IP40	IP64 or IP67	IP64 or IP67	IP64 or IP67	IP64 or IP67	IP64 or IP67
Shock/ Vibration	100g / 10g	100g / 10g	100g / 10g	100g / 10g	100g / 10g	100g / 10g	400g / 30g
Sensing Engine	Optical	Optical	Optical	Optical	Optical	Optical	Optical
Certifications	CE, RoHS	CE, RoHS	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL
Special Features	Notched Shaft Installs Easily. Eliminates Coupling Issues	Special Conical Shaft for Concentric Motor Mounting	High speed 6 wire serial protocol encoder	Terminal strip and dip switches allow for easy installation and configuration	High precision fully integrated opto ASIC technology	Allows Interoperability	High data transmission efficiency with short cycle times
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	HUB-SHAFT						
	IND	IND	IND	IND	PIC?	IND	IND
Product	AI25	AI25	AI25	AI25	AI25	AI25	AI25
Protocols	BiSS	CANOpen	CANLayer2	DeviceNet	EtherCAT	Interbus	Parallel
Encoder Size	58 mm	58 mm	58 mm	58 mm	58 mm	58 mm	58 mm
Mounting Type	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft
Shaft/Bore Size	10mm, 12mm, 3/8" & 1/2"	10mm, 12mm, 3/8" & 1/2"	10mm, 12mm, 3/8" & 1/2"	10mm, 12mm, 3/8" & 1/2"	10mm, 12mm, 3/8" & 1/2"	10mm, 12mm, 3/8" & 1/2"	10mm, 12mm, 3/8" & 1/2"
Resolutions (PPR)	Up to 22 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 22 bit Single-Turn, 12 bit Multi-Turn	Up to 12 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn
Input Voltage (VDC)	5 or 10-30	10-30	10-30	10-30	7-30	10-30	5 or 10-30
Operating Temperature (°C)	-40 to +100	-40 to +85	-40 to +85	-40 to +85	-40 to +85	-40 to +85	-40 to +100
Enclosure Rating	IP64 or IP67	IP64 or IP67	IP64 or IP67	IP64 or IP67	IP64 or IP67	IP64 or IP67	IP64 or IP67
Shock/ Vibration	100g / 10g	100g / 10g	100g / 10g	100g / 10g	400g / 30g	100g / 10g	100g / 10g
Sensing Engine	Optical	Optical	Optical	Optical	Optical	Optical	Optical
Certifications	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL
Special Features	High speed 6 wire serial protocol encoder	Terminal strip and dip switches for easy installation and configuration	High precision fully integrated opto ASIC technology	Allows Interoperability	High data transmission efficiency with short cycle times	Lower Noise Sensitivity	Data is transferred in parallel over several lines
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						SHAFTED	
AI25	AI25	AI25	AI25	AI25	AC36	AR62/63	Product
Interbus	Parallel	Profibus	SSI	BiSS/SSI	SSI, CANOpen, Analog		Protocols
58 mm, or 2.5"	58 mm, or 2.5"	58 mm, or 2.5"	58 mm, or 2.5"	37.5 mm	58 mm or 2.5"		Encoder Size
Shafted	Shafted	Shafted	Shafted	Shafted	Shafted		Mounting Type
6mm & 10mm & 3/8"	6mm & 10mm & 3/8"	6mm & 10mm & 3/8"	6mm & 10mm & 3/8"	6 mm	3/8", 10 mm		Shaft/Bore Size
Up to 12 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 17 bit Single-Turn, 12 bit Multi-Turn	Up to 22 bit Single-Turn, 12 bit Multi-Turn	12 Bit Single-Turn, 12, 13 and 16 Bit Multi-Turn		Resolutions (PPR)
10-30	5 or 10-30	10-30	5 or 10-30	5 or 7-30	10-30		Input Voltage (VDC)
-40 to +85	-40 to +100	-40 to +85	-40 to +100	-40 to +100	-40 to +100		Operating Temperature (°C)
IP64 or IP67	IP64 or IP67	IP64 or IP67	IP64 or IP67	IP64	IP67/ IP69k		Enclosure Rating
100g / 10g	100g / 10g	100g / 10g	100g / 10g	100g / 10g	200g / 20g		Shock/ Vibration
Optical	Optical	Optical	Optical	Optical	Magnetic		Sensing Engine
CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS		Certifications
Lower Noise Sensitivity	Data is transferred in parallel over several lines	Capable Of Sending Complex Communications when time Is Critical	Ideal for demanding motion control applications with high accuracy	Compact Construction can directly replace corresponding incremental encoders	Copes with extreme acceleration, drastic climate change. Can work normally under water.		Special Features
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					HOLLOW-SHAFT	SAFETY	
AI25	AI25	AC36	AD35	AD36	AD36	AD37S	Product
Profibus	SSI	BiSS/SSI	BiSS, SSI	BiSS, SSI	BiSS, SSI	Acuro Link	Protocols
58 mm	58 mm	37.5 mm	37.5 mm	37.5 mm	37.5 mm	39.3 mm	Encoder Size
Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hub-Shaft	Hollow-Shaft	Integrated Double-Cardanic Coupling Hub	Mounting Type
10mm, 12mm, 3/8" & 1/2"	10mm, 12mm, 3/8" & 1/2"	8 mm	8mm	8mm	8mm	Shaft with Integrated Coupling Hub	Shaft/Bore Size
Up to 14 bit Single-Turn, 12 bit Multi-Turn	Up to 17 bit Single-Turn, 12 bit Multi-Turn	Up to 22 bit Single-Turn, 12 bit Multi-Turn	Up to 22 bit Single-Turn	Up to 22 bit Single-Turn, 12 bit Multi-Turn	Up to 22 bit Single-Turn, 12 bit Multi-Turn	Up to 20 bit Single-Turn, 12 bit Multi-Turn	Resolutions (PPR)
10-30	5 or 10-30	5 or 7-30	5 or 7-30	5 or 7-30	5 or 7-30	7 - 12	Input Voltage (VDC)
-40 to +85	-40 to +100	-40 to +100	-15 to +120	-15 to +120	-15 to +120	-20 to +105	Operating Temperature (°C)
IP64 or IP67	IP64 or IP67	IP64	IP40	IP40	IP40	IP40	Enclosure Rating
100g / 10g	100g / 10g	100g / 10g	100g / 10g	100g / 10g	100g / 10g	100g / 20g	Shock/ Vibration
Optical	Optical	Optical	Optical	Optical	Optical	Magnetic	Sensing Engine
CE, RoHS, UL	CE, RoHS, UL	CE, RoHS, UL	CE, RoHS	CE, RoHS	CE, RoHS	SIL2 PLd SIL3 PLe	Certifications
Capable of Complex Communications when time Is Critical	For demanding motion control applications with high accuracy	Compact Design can replace corresponding incremental encoders	Short Mounting Depth Allows Installation in Tight Motor Endbells	Compact Dimensions Compatible with Size 15 Resolvers	Compact Dimensions Compatible with Size 15 Resolvers	SIL2 safety in servo motor control systems	Special Features
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QUICK REFERENCE GUIDE



Quick Reference - Resolvers

	FRAMELESS							
								
Product	Size 10	Size 15	HaroMax 15	Size 21	HaroMax 21	Size 31	Size 55	
Resolver Size	1.0"	1.5"	1.5"	2.1"	2.1"	3.1"	5.5"	
Mounting Type	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	Bearingless	
Shaft/Bore Size	Up to 1/4"	Up to 12mm	Up to 12mm	Up to 20mm	Up to 20mm	Up to 40mm	Up to 92mm	
Accuracy	+/- 15 arcmin Single speed	+/- 7 arcmin Single speed +/- 4 arcmin Multiple speeds	16 arcmin spread Single speed	+/- 7 arcmin Single speed +/- 4 arcmin Multiple speeds	18 arcmin spread Single speed	+/- 10 arcmin Single speed +/- 5 arcmin Multiple speeds	+/- 30 arcmin Single speed +/- 2 arcmin Multiple speeds	
Input Voltage (Vrms)	2-10	2-10	2-10	2-10	2-10	2-10	2-10	
Operating Temperature (°C)	Up to 200	Up to 200	Up to 155	Up to 200	Up to 155	Up to 200	Up to 200	
Enclosure Rating	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Sensing Engine	Inductive	Inductive	Inductive	Inductive	Inductive	Inductive	Inductive	
Shock/ Vibration	50g / 10g	50g / 10g	50g / 10g	50g / 10g	50g / 10g	N/A	N/A	
Certifications	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Special Features	Radiation Hardened Available	Radiation Hardened Available	Machine Wound Stator	Radiation Hardened Available	Machine Wound Stator	Radiation Hardened Available	Radiation Hardened Available	
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HOUSED




SSM	SSM	HD	HD	HD	HD	
Size 11	R11	R25	RF25	RH25	R56	Product
1.1"	1.1"	2.5"	2.5"	2.5"	5.6"	Resolver Size
Shafted	Shafted	Servo/ Flange	Flange	Hub Shaft	Foot/ C-Face	Mounting Type
0.120" (3.05mm)	0.120" (3.05mm)	3/8"	3/8"	5/8"	5/8"	Shaft/Bore Size
+/- 7 arcmin	+/- 20 arcmin	+/- 7 arcmin Single speed +/- 2 arcmin Multiple speeds	+/- 10 arcmin Single speed 10 arcmin spread Two speed	+/- 7 arcmin Maximum	+/- 10 arcmin Single speed 10 arcmin spread Two speed	Accuracy
2-26	2-6	2-26	26	2-10 (see order info)	26	Input Voltage (Vrms)
Up to 125	Up to 125	-55 to +125	-55 to +125	-55 to +125	-40 to +120	Operating Temperature (°C)
N/A	N/A	IP65	IP65	IP54	IP66	Enclosure Rating
Inductive	Inductive	Inductive	Inductive	Inductive	Inductive	Sensing Engine
N/A	N/A	200g / 40g	200g / 40g	N/A	50g / 10g	Shock/ Vibration
N/A	N/A	RoHS	RoHS	N/A	RoHS	Certifications
Radiation Hardened	Radiation Hardened	Optional Connectors & Locations	Optional Connectors & Locations	N/A	Latching Connector	Special Features
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QUICK REFERENCE GUIDE










Quick Reference - Hazardous Duty

	SHAFTED INCREMENTAL			HUB-SHAFT INCREMENTAL	
	HAZ 	HAZ 	HAZ 	HAZ 	HAZ 
Product	Hazardous HD20	Hazardous HD25	X25	ISD25	EN44
Encoder Size	2.0"	2.5"	4"	2.5"	4.4"
Mounting Type	Shafted	Shafted	Shafted	Hub-Shaft	Hub-Shaft
Shaft/Bore Size	3/8", 10mm	3/8", 10mm, 12mm	1/4" or 3/8"	6mm - 19mm or 1/4" - 3/4"	16mm
Resolutions (Bits)	1 - 3600	1 - 5000	1 - 5000	1 - 3600	1024 and 2048
Input Voltage (VDC)	5-26	5-26	5-26	5 or 7-26	7-26 or 10-30
Operating Temperature (°C)	-40 to +80	-40 to +80	0 to +70	-40 to +80	-50 to +100
Enclosure Rating	IP67	IP67	NEMA 4X / IP56	IP67	IP67
Sensing Engine	Optical	Optical	Optical	Optical	Optical
Shock/ Vibration	50g / 20g	50g / 20g	50g / 2g	50g / 20g	50g / 20g
Certifications	CE, RoHS, CSA, ATEX, IECEx	CE, RoHS, CSA, ATEX, IECEx	CE, RoHS, UL	CE, RoHS, CSA, ATEX, IECEx	CE, RoHS, CSA, ATEX, IECEx
Special Features	Ideal for Corrosive Environments with Stringent Wash-down Requirements	Ideal for Corrosive Environments with Stringent Wash-down Requirements	NEC Class 1&2, Div 1&2, Groups C, D, E, F, G	Field Replaceable Shaft Isolators	Triple Certified Encoder for Hazardous Locations
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HOLLOW-SHAFT INCREMENTAL		SPECIALTY INCREMENTAL		SHAFTED ABSOLUTE			
							
Hazardous HSD35	ISD37	EN42	ISW38	AX65	AX70/71	AX73	Product
3.8"	3.75"	3.8"	3.75"	59 mm Servo Mount	70 mm Face Mount	73.5 mm Face Mount	Encoder Size
Hollow-Shaft	Hollow-Shaft	Hollow-Shaft	Specialty Hollow Shaft	Shafted	Shafted	Shafted	Mounting Type
6mm - 28mm, or 1/4" - 1 1/4"	6mm - 25mm 1/4" - 1"	15mm-16mm or 5/8" - 1"	1"-14UNS x 5/8"-18 Threaded Shaft or 1"-14UNS Threaded Shaft	10 mm	10 mm	10 mm	Shaft/Bore Size
1 - 5000	15 - 5000	15 - 5000	15 - 5000	12 Bit Single-Turn, 12, 13 and 16 Bit Multi-Turn	10 - 22 Bit Single- Turn, 12 Bit Multi-Turn	14 Bit Single-Turn, 12 Bit Multi-Turn	Resolutions (Bits)
5-26	5 or 7-26	7-26 or 10-30	5 or 7-26	10-30	5 or 10-30	10-30	Input Voltage (VDC)
-40 to +85	-40 to +80	-50 to +100	-40 to +80	-40 to +60	-40 to +60	-40 to +70	Operating Temperature (°C)
IP67	IP67	IP67	IP67	IP66/IP67	IP64/IP67	IP67	Enclosure Rating
Optical	Optical	Optical	Optical	Magnetic	Optical	Optical	Sensing Engine
400g / 20g	400g / 20g	50g / 20g	400g / 20g	200g / 30g	100g / 10g	100g / 10g	Shock/ Vibration
CE, RoHS, UL	CE, RoHS, CSA, ATEX, IECEx	CE, RoHS, CSA, ATEX, IECEx	CE, RoHS, CSA, ATEX, IECEx	CE, RoHS, ATEX, IECEx	CE, RoHS, ATEX, IECEx, AEx	CE, RoHS, ATEX, IECEx	Certifications
Field Serviceable Connector for Solder-Less Connections	Operates in High Shock and Vibration Environments	Encapsulated Electronics with Increased Safety Interface for Zone 1 Use	Draw Works Threaded Shaft with Field Replaceable Adapters	Extreme Robust Explosionproof Absolute Multiturn Encoder	Pressure Resistant Housing for Explosive Environments	Extreme corrosion resistance: high grade stainless steel housing	Special Features
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