



Smart encoders & actuators

AQ5x Series Programmable Incremental Encoders

Features

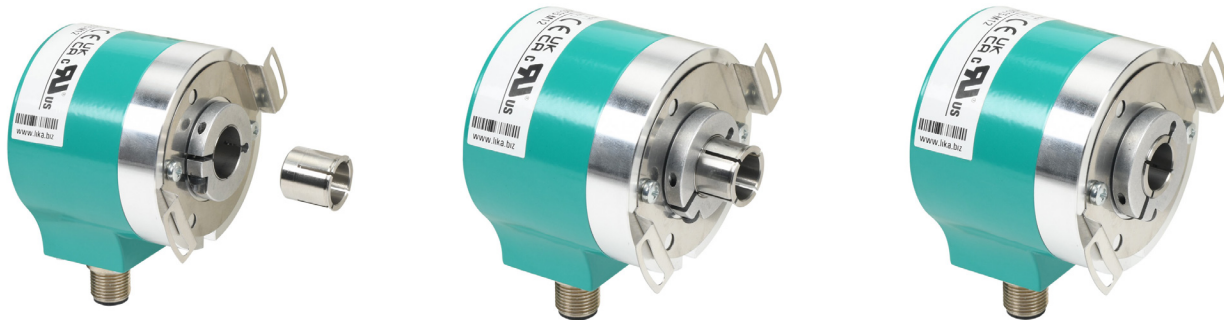
- Programmable incremental encoder
- Configurable resolution from 1 to 16,384 PPR (1024 default)
- Selectable index length of 90 or 180°
- Counting direction programmable CW or CCW
- Universal output circuit: 5–30 VDC Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)
- Quadrature output signals with index (ABZ, /ABZ)
- Programmable via USB cable and LIKA-IP-IQ software (free download at AutomationDirect on the AQ58S and AQ59H store pages)
- IP65 environmental rating



AQ5x Series Medium Duty Incremental (Quadrature) Encoders								
Part Number	Price	Pulses per Revolution	Dimensional Drawing	Shaft Type	Body Diameter	Input Voltage	Cable	Output
AQ58S-PRG-HZCP9-M12	\$145.00	Up to 16,384 (14-bit)	PDF	3/8" solid	58mm	5-30 VDC	M12 male	Universal circuit: Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)
AQ59H-PRG-HZC15-M12	\$145.00		PDF	6 to 15 mm hollow	59mm			

Configurable Hollow Shaft Sizing

The AQ59H encoder features a hollow shaft that can be resized using removable bushings. The images below show the installation of a [BR1-12](#) bushing. See the "Accessories - AQ5x Series" on page tECD-9 for all available options.



How to Configure your Encoder

Use one of the following cable(s) to configure the encoder:

- [KIT-IP/IQ58-USB-M12](#) programming cable
- Combination of [KIT-IP/IQ58](#) and [EC-IP/IQ58-M12](#)
- Combination of [KIT-IP/IQ58](#) and [EC-M12F12-LKT12-05](#) or [EC-M12F12-LKT12-10](#)
- Download the software from the [AQ58S-PRG-HZCP9-M12](#) or [AQ59H-PRG-HZC15-M12](#) store page



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Accessories - AQ5x Series

Accessories for AQ5x Series Encoders		
Part Number	Price	Description
<u>BR1-6</u>	\$7.00	Lika Electronic reducer bushing, 15mm to 6mm, metal. For use with Lika Electronic AQ59 series encoders.
<u>BR1-6.35</u>	\$7.00	Lika Electronic reducer bushing, 15mm to 1/4in, metal. For use with Lika Electronic AQ59 series encoders.
<u>BR1-8</u>	\$7.00	Lika Electronic reducer bushing, 15mm to 8mm, metal. For use with Lika Electronic AQ59 series encoders.
<u>BR1-9.52</u>	\$7.00	Lika Electronic reducer bushing, 15mm to 3/8in, metal. For use with Lika Electronic AQ59 series encoders.
<u>BR1-10</u>	\$7.00	Lika Electronic reducer bushing, 15mm to 10mm, metal. For use with Lika Electronic AQ59 series encoders.
<u>BR1-11</u>	\$7.00	Lika Electronic reducer bushing, 15mm to 11mm, metal. For use with Lika Electronic AQ59 series encoders.
<u>BR1-12</u>	\$7.00	Lika Electronic reducer bushing, 15mm to 12mm, metal. For use with Lika Electronic AQ59 series encoders.
<u>BR1-12.7</u>	\$7.00	Lika Electronic reducer bushing, 15mm to 1/2in, metal. For use with Lika Electronic AQ59 series encoders.
<u>PF4256</u>	\$35.00	Lika Electronic round mounting flange, 61mm bolt hole circle, metal. For use with Lika Electronic AQ58 series encoders. Mounting hardware included.
<u>PF0408</u>	\$129.00	Lika Electronic spring-loaded encoder mount, metal. For use with Lika Electronic AQ58 series encoders. Mounting hardware included.
<u>PF4257</u>	\$19.00	Lika Electronic right angle bracket, metal. For use with Lika Electronic AQ58 series encoders. Mounting hardware included.
<u>PF4259</u>	\$22.00	Lika Electronic square mounting flange, 92mm bolt hole circle, metal. For use with Lika Electronic AQ58 series encoders. Mounting hardware included.
<u>PF4274</u>	\$99.00	Lika Electronic round mounting flange, 70mm bolt hole circle, metal. For use with Lika Electronic AQ58 series encoders. Mounting hardware included.
<u>PF4258</u>	\$19.00	Lika Electronic round mounting flange, 75mm and 100mm bolt hole circle, metal. For use with Lika Electronic AQ58 series encoders. Mounting hardware included.
<u>PF5000-A</u>	\$16.00	Lika Electronic square mounting flange, 70mm bolt hole circle, metal. For use with Lika Electronic AQ58 series encoders. Mounting hardware included.
<u>LKM-386</u>	\$9.00	Lika Electronic servo mount clamp, metal. For use with Lika Electronic AQ58 and A41 series encoders. Mounting hardware included.
<u>KIT-XX59</u>	\$9.00	Lika Electronic servo mount clamp, metal. For use with Lika Electronic AQ58 and AQ59 series encoders. Mounting hardware included.
<u>KIT-IP/IQ58</u>	\$139.00	Lika Electronic programming cable, USB A to 4-position terminal block, 4.9ft/1.5m cable length. For use with Lika Electronic AQ58 and AQ59 series encoders. Requires Lika Electronic EC-IP/IQ58-M12 programming or EC-M12F12-LKT12-xx encoder cable.
<u>EC-IP/IQ58-M12</u>	\$29.00	Lika Electronic programming cable, M12 axial female to pigtail, 2ft cable length. For use with Lika Electronic AQ58 and AQ59 series encoders. Requires Lika Electronic KIT-IP/IQ58 programming cable.
<u>KIT-IP/IQ58-USB-M12</u>	\$99.00	Lika Electronic programming cable, USB A to M12 axial female, 1.6ft/0.5m cable length. For use with Lika Electronic AQ58 and AQ59 series encoders.
<u>EC-M12F12-LKT12-05</u>	\$55.00	Lika Electronic encoder cable, M12 axial female to pigtail, shielded, 16.4ft/5m cable length. For use with Lika Electronic AQ58 and AQ59 series encoders.
<u>EC-M12F12-LKT12-10</u>	\$75.00	Lika Electronic encoder cable, M12 axial female to pigtail, shielded, 32.8ft/10m cable length. For use with Lika Electronic AQ58 and AQ59 series encoders.

**Bore Reducers****Mounting Flanges****PF0408****LKM-386****PF4257****KIT-IP/IQ58****EC-IP/IQ58-M12****KIT-IP/IQ58-USB-M12****EC-M12F12-LKT12-05****KIT-XX59**



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Specifications - AQ5x Series

Electrical Specifications	
Resolution (PPR)	Programmable from 1 to 16,384 (default 1024 PPR)
Accuracy	$\pm 0.15^\circ$
Output Signals	Quadrature output signals with index (ABZ, /ABZ)
Counting Frequency	500kHz maximum
Output Circuits	Universal circuit: Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)
Power Supply	+5VDC to +30VDC
Consumption	60mA (typical)
Output Current (each channel)	40mA maximum
Protection	Against inversion of polarity and short circuit
EMC	Electro-magnetic immunity according to EN61000-4-2 and EN61000-4-4
Mechanical Specifications	
Shaft Diameter	$\varnothing 9.52$ mm (3/8")
Hollow Shaft Diameter	$\varnothing 15$ mm (available bore reducer sleeves for 6mm, 1/4", 8mm, 3/8", 10mm, 11mm, 12mm, 1/2")
Shaft Loading (axial, radial)	100N maximum
Shaft Rotational Speed	Typical 6000 rpm, temporary 12000 rpm maximum
Starting Torque (@20°C)	AQ58: 0.15 Ncm AQ59: 0.4 Ncm
Bearings Life	400 x 10 ⁶ rev. min (10 ⁹ rev. min. with shaft loading limited to 20N)
Electrical Connections	M12
Weight	200g (7 oz)
Materials	
Flange	Anticorodal, UNI EN AW-6082
Housing	Anticorodal, UNI EN AW-6082
Bearings	ABEC 5
Shaft	Stainless steel, non-magnetic, UNI EN 4305
Environmental Specifications	
Shock	100g, 6ms acc.
Vibrations	10g, 5-2000 Hz acc.
Protection	IP65
Operating Temperature Range	-40°C to 85°C (-40°F to 185°F)
Storage Temperature Range	-40°C to 100°C (-40°F to 212°F) (98% relative humidity without condensation)
Approvals	CE, UKCA, _c UR _{us} , RoHS