

BRIEF INFORMATION

Electric Valve Actuator (eVA)

- › The actuator operates reliably at temperatures of up to 110 °C, making it suitable for demanding thermal management environments.
- › Thanks to its robust design and high-quality components, the eVA offers a long lifetime, ensuring consistent performance.
- › With a nominal torque of 1.5 Nm at 120° per second, the actuator delivers precise and powerful valve control for a wide range of applications.
- › It guarantees short response times for precise control of the coolant temperature and flow. It is perfectly suited to valve combinations with higher power requirements.

PRODUCT FEATURES

Application

The Electronic Valve Actuator (eVA) is designed for precise control of multi-way valves within thermal management systems of electric vehicles. It ensures that coolant is distributed exactly where needed, optimizing the temperature of critical components such as batteries and power electronics. By maintaining ideal operating temperatures, the eVA helps increase the efficiency, service life, and range of electric vehicles. Its modular platform approach makes it suitable for both centralized and decentralized thermal management architectures.

Design and Function

The eVA features a robust, brushless BLDC motor combined with a multi-stage gear train for high torque and precision. Integrated smart electronics enable position control and communication via

LIN 2.2a interface. The actuator uses FORVIA HELLA's precise angle position measurement, ensuring high accuracy and reliability even in demanding environments.

It guarantees short response times for precise control of coolant temperature and flow, which is essential for optimal thermal management. The eVA is perfectly suited to valve combinations with higher power requirements, delivering a nominal torque of 1.5 Nm at 120° per second. Available in two torque categories (1 Nm for compact installations and 3 Nm for high-performance needs), the eVA is cost-optimized through a platform approach for hardware, software, and motor technology.

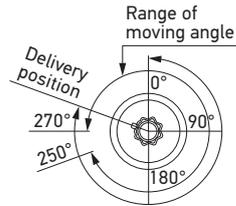
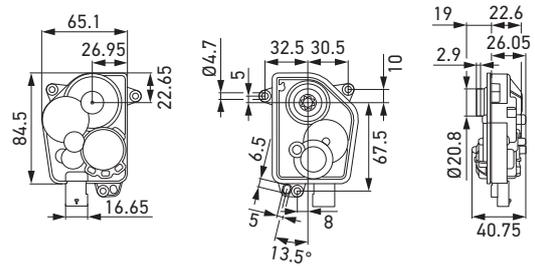
TECHNICAL DETAILS

Technical data

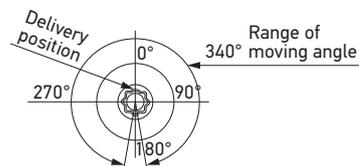
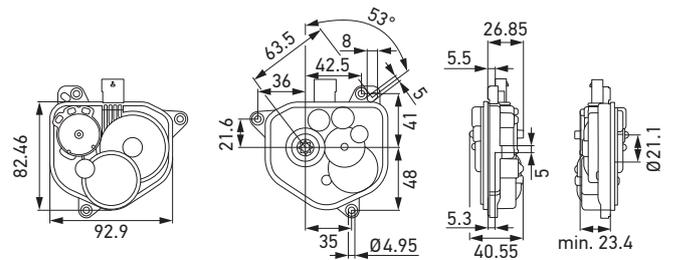
Operating voltage range	Single-voltage (9–16 V)
Rated voltage	12 V
Communication	LIN 2.2a interface
Torque	1,5 Nm @ 120°/sec (compact) 3 Nm @ 30°/sec (high torque)
Temperature range	-40 °C up to 110 °C
Endurance Life	Up to 6.3 million cycles/ 180 million degrees movement
Protection class	IP 6K9K
Protection	Polarity reversal protection, thermal overload protection
Weight	136 g (compact), 160 g (high torque)
Operating angle	340° *
Connection	3 Pin MLK with silver-plated pins
Sensor technology	Absolute/relative

* No internal hardstops, mechanical self-locking not included.

Dimensional sketch

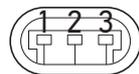


eVA-S

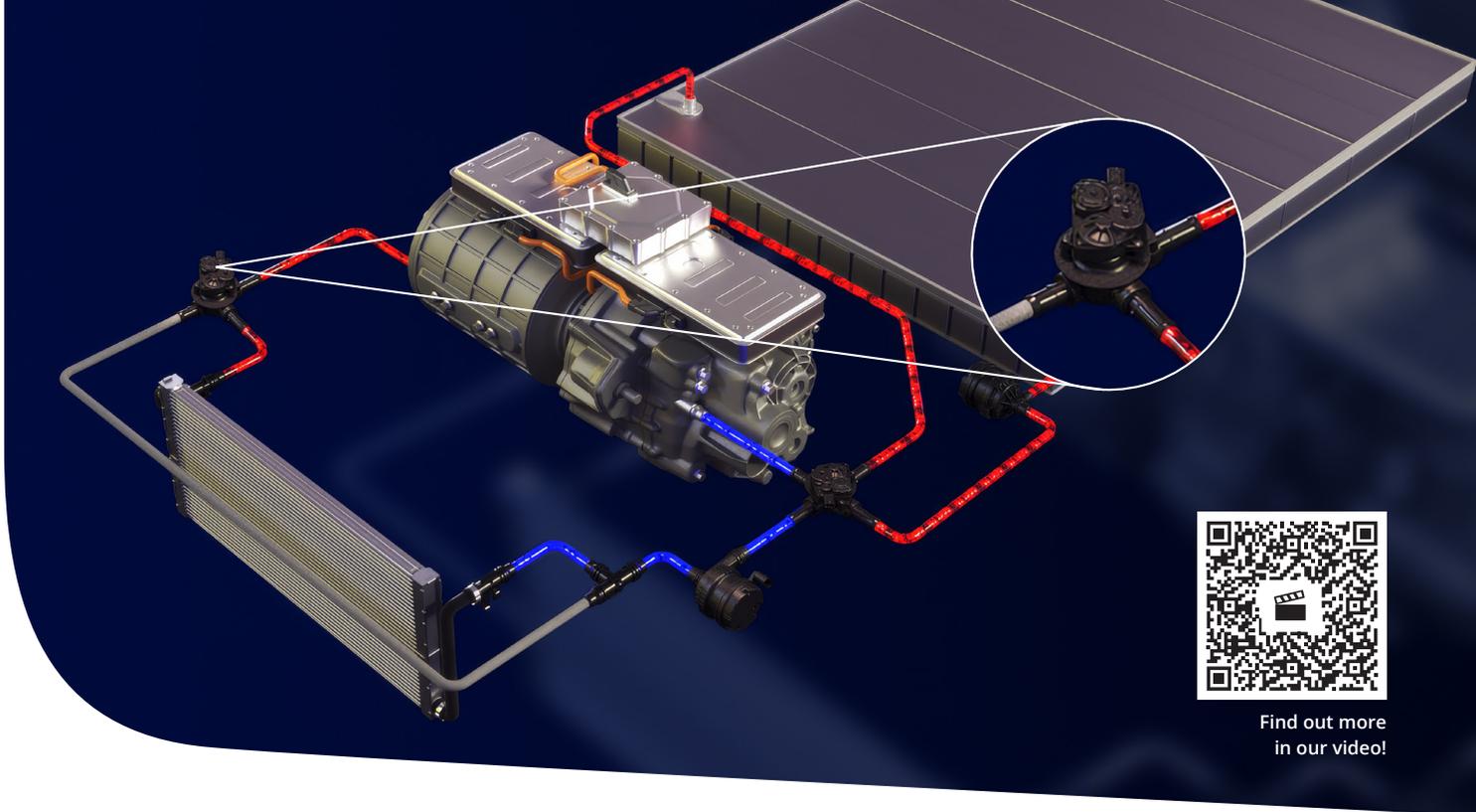


eVA-L

Pin assignment/electrical connection



- Pin 1: GND
- Pin 2: LIN
- Pin 3: VCC



Find out more
in our video!

APPLICATION EXAMPLE

In modern electric vehicles, thermal management is crucial for both battery longevity and passenger comfort. The eVA is responsible for controlling multi-way valves that distribute coolant throughout the vehicle's cooling circuit.

For example, in a centralized system, the actuator opens and closes valve inputs and outputs, and can mix coolant to achieve precise temperature control. This ensures optimal cooling for batteries, power electronics, and cabin circuits, directly impacting vehicle range and efficiency.

PROGRAM OVERVIEW

Product picture	Description	Part number	VPE*
	eVA-S	On request	1
	eVA-L	On request	1

* Packaging unit.