

# **Technical data sheet**

LRF24-O

# Rotary actuator with fail-safe for ball valves

- Torque motor 4 Nm
- Nominal voltage AC/DC 24 V
- Control Open/close
- Deenergised open (NO)



# **Technical data**

Electrical data       Nominal voltage       AC/DC 24 V         Nominal voltage frequency       50/60 Hz         Nominal voltage range       AC 19.228.8 V / DC 21.628.8 V         Power consumption in operation       5 W         Power consumption in rest position       2.5 W         Power consumption for wire sizing       7 VA         Connection supply / control       Cable 1 m, 2 x 0.75 mm²         Parallel operation       Yes (note the performance data)         Torque fail-safe       4 Nm         Direction of motion fail-safe       Deenergised NO, valve open (A – AB = 100%)         Manual override       hand lever         Running time motor       75 s / 90°         Running time fail-safe       <20 s / 90°         Sound power level, motor       50 dB(A)         Position indication       Mechanical         Service life       Min. 60'000 fail-safe positions         Pice of protection IEC/EN       IIP54         EMC       CE according to 2014/30/EU         Certification IEC/EN       IEC/EN 60730-1 and IEC/EN 60730-2-14         Mode of operation       Type 1         Rated impulse voltage supply / control       0.8 kV         Control pollution degree       3         Ambient temperature       -3050°C			
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Connection supply / control       Cable 1 m, 2 x 0.75 mm²         Parallel operation       Yes (note the performance data)         Functional data       Torque motor       4 Nm         Torque fail-safe       4 Nm         Direction of motion fail-safe       Deenergised NO, valve open (A – AB = 100%)         Manual override       hand lever         Running time motor       75 s / 90°         Running time fail-safe       <20 s / 90°         Sound power level, motor       50 dB(A)         Position indication       Mechanical         Service life       Min. 60'000 fail-safe positions         Protection class IEC/EN       III Safety Extra-Low Voltage (SELV)         Degree of protection IEC/EN       IP54         EMC       Ce according to 2014/30/EU         Certification IEC/EN       IEC/EN 60730-1 and IEC/EN 60730-2-14         Mode of operation       Type 1         Rated impulse voltage supply / control       0.8 kV         Control pollution degree       3         Ambient temperature       -3050 °C         Storage temperature       -4080 °C         Ambient humidity       Max. 95% r.H., non-condensing         Servicing       maintenance-free		Power consumption in rest position	2.5 W
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Torque fail-safe       4 Nm         Direction of motion fail-safe       Deenergised NO, valve open (A – AB = 100%)         Manual override       hand lever         Running time motor       75 s / 90°         Running time fail-safe       <20 s / 90°         Sound power level, motor       50 dB(A)         Position indication       Mechanical         Service life       Min. 60'000 fail-safe positions         Safety       Protection class IEC/EN       III Safety Extra-Low Voltage (SELV)         Degree of protection IEC/EN       IP54         EMC       CE according to 2014/30/EU         Certification IEC/EN       IEC/EN 60730-1 and IEC/EN 60730-2-14         Mode of operation       Type 1         Rated impulse voltage supply / control       0.8 kV         Control pollution degree       3         Ambient temperature       -3050°C         Storage temperature       -4080°C         Ambient humidity       Max. 95% r.H., non-condensing         Servicing       maintenance-free		Parallel operation	Yes (note the performance data)
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Storage temperature-4080 °CAmbient humidityMax. 95% r.H., non-condensingServicingmaintenance-free		Control pollution degree	3
Ambient humidityMax. 95% r.H., non-condensingServicingmaintenance-free		Ambient temperature	-3050°C
Servicing maintenance-free		Storage temperature	-4080°C
		Ambient humidity	Max. 95% r.H., non-condensing
Weight Weight 15 kg		Servicing	maintenance-free
	Weight	Weight	1.5 kg



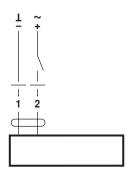
Safety notes	
$\underline{\wedge}$	• This device has been designed for use in stationary heating, ventilation and air- conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
	<ul> <li>Outdoor application: only possible in case that no (sea) water, snow, ice, insolation or aggressive gases interfere directly with the actuator and that is ensured that the ambient conditions remain at any time within the thresholds according to the data sheet.</li> </ul>
	<ul> <li>Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.</li> </ul>
	<ul> <li>The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.</li> </ul>
	<ul> <li>Cables must not be removed from the device.</li> </ul>
	<ul> <li>The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.</li> </ul>
Product features	
Mode of operation	The actuator moves the valve to the operating position at the same time as tensioning the return spring. The valve is turned back to the fail-safe position by spring force when the supply voltage is interrupted.
Simple direct mounting	Simple direct mounting on the ball valve with only one screw. The mounting orientation in relation to the ball valve can be selected in $90^{\circ}$ steps.
Manual override	The valve can be manually operated and fixed in any position using a hand crank. Unlocking is carried out manually or automatically by applying the operating voltage.
High functional reliability	The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

#### **Electrical installation**

<ul> <li>Notes</li> <li>Connection via safety isolating transformer.</li> <li>Parallel connection of other actuators possible. Observe the performance of the second secon</li></ul>
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#### Wiring diagrams

AC/DC 24 V, open/close

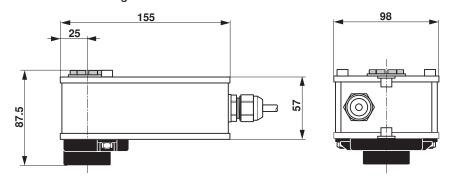


Cable colours: 1 = black 2 = red



## **Dimensions** [mm]

**Dimensional drawings** 



### **Further documentation**

- The complete product range for water applications
- Data sheets for ball valves
- · Installation instructions for actuators and/or ball valves
- · General notes for project planning