

HERZ - Motor drive

Data sheet 1 **7712** 5X, 6X Issue 0821

General information

Intended use

Motorized valves enable us to approach the user's wishes for comfort and energy savings. They are used in heating, cooling and process systems, where we want operation 24 hours a day, their constant and precise characteristics and setting characteristics, even with very low loads, are decisive for the efficiency of systems.

The ball valve (hereinafter abbreviated as BV) with a linear characteristic allows us to control the temperature or flow in the system, providing that it is properly installed in the system.



The mixing valve (hereinafter abbreviated as MIX V) is a motorized MIX V which enables us ON/OFF flow regulation. Three - way MIX V are most useful in heating and cooling systems, whereby we regulate the flow-in temperature in the heating/cooling body according to the needs of the user. With their use, we can solve very complicated regulatory problems at low cost, while at the same time ensuring high operational safety.



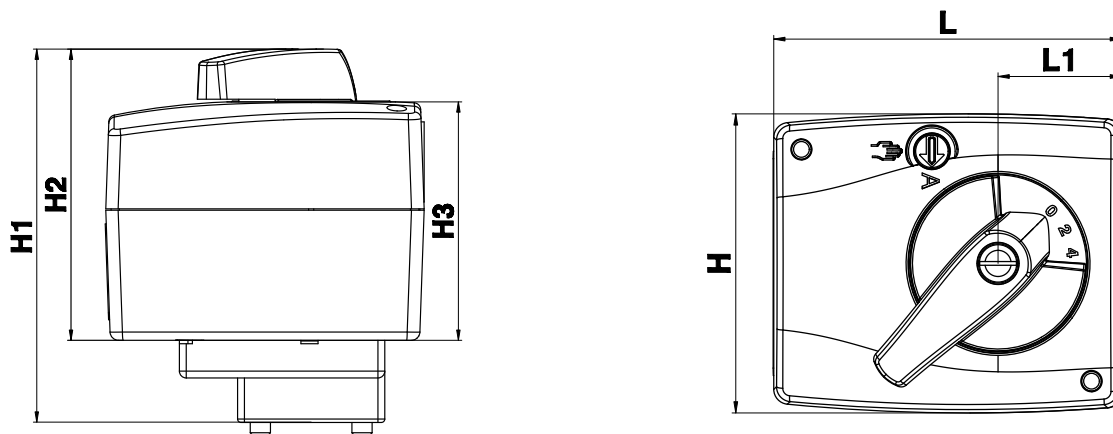
Image	Art. nr.	Type	Description	STD Adapter	Voltage	Position	Control	Page
	1 7712 63	NR230-455	Motor drive for MIX V	1 7712 67 MS-NRHE for mounting on MIX V	230 V	3-point	/	3
	1 7712 61	NR230-459	Motor drive for BV	1 7712 66 WNR-HE for mounting on BV	230 V	3-point	/	3
	1 7712 60	NR230-460	Motor drive for BV	1 7712 66 WNR-HE for mounting on BV	230 V	2-point	/	5
	1 7712 62	NR24-464	Motor drive for BV	1 7712 66 WNR-HE for mounting on BV	24 V	/	Adjustable 0-10 V	7
	1 7712 57	NR24-504	Motor drive for MIX V	1 7712 67 MS-NRHE for mounting on MIX V	24 V	/	Adjustable 0-10 V	7
	1 7712 56	NR24-505	Motor drive for MIX V	1 7712 67 MS-NRHE for mounting on MIX V	24 V	3-point	/	9
	1 7712 59	NR24-506	Motor drive for BV	1 7712 66 WNR-HE for mounting on BV	24 V	3-point	/	11
	1 7712 58	NR24-513	Motor drive for BV	1 7712 66 WNR-HE for mounting on BV	24 V	2-point	/	11
	1 7712 66	WNR-HE	Adapter for mounting on BV, possible mounting on MIX motor drive which is then suitable for mounting on BV	/	/	/	/	13
	1 7712 67	MS-NRHE	Adapter for mounting on MIX V	/	/	/	/	13
	1 7781 03	/	Handle and scale for MIX motor drive	/	/	/	/	13
	/	/	Handle and scale for BV motor drive	/	/	/	/	13

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☑ Dimensions



Art. nr.	Voltage	Adapter	Intended use	Position	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Weight [kg]
1 7712 63	230 V	MS-NRHE 1 7712 67	BV	3-point	80	109	85	70	93	33	0,44
1 7712 61	230 V	WNR-HE 1 7712 66	MIX V	3-point	80	109	85	70	93	33	0,44

☑ Technical data

Electrical data

Nominal voltage	AC 230 V
Nominal voltage frequency	50/60 Hz
Nominal voltage range	AC 198...264 V
Power consumption in operation	3.5 W
Power consumption for wire sizing	3.5 VA
Connection supply / control	Terminals 4 mm ² (cable Ø6...8 mm, 3-wire)
Parallel operation	No

Functional data

Torque motor	10 Nm
Position accuracy	±5%
Direction of motion motor	clockwise rotation
Manual override	temporary and permanent gear disengagement with rotary knob on the housing
Angle of rotation	90°
Running time motor	140 s / 90°
Duty cycle value	75% (= active time 140 s / operating time 187s)
Sound power level, motor	37 dB(A)
Position indication	Reversible scale plate

Safety data

Protection class IEC/EN	II reinforced insulation
Degree of protection IEC/EN	IP40
EMC	CE according to 2014/30/EU
Low voltage directive	CE according to 2014/35/EU
Mode of operation	Type 1
Rated impulse voltage supply / control	4 kV
Control pollution degree	3
Ambient temperature	0...50°C
Storage temperature	-30...80°C
Ambient humidity	Max. 95% r.H., non-condensing
Servicing	maintenance-free

Housing colours

Housing cover	red
Housing base	black

☑ Safety notes

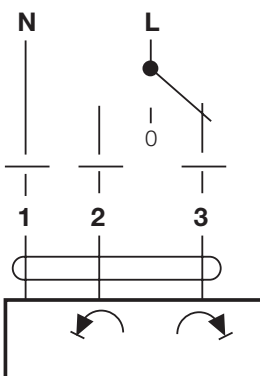
- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- The actuator is to be protected against moisture. It is not suitable for outdoor applications.
- To calculate the torque required, the specifications supplied by the mixing valve manufacturer must be observed.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The correct functioning of the strain relief for the cable in the actuator housing is to be checked.
- The installer must check for correct principle of operation after installation.
- The device does not contain any parts that can be replaced or repaired by the user.
- 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.
- Caution: Power supply voltage!

☑ Product features

Mode of operation	The actuator is activated with a 3-point signal.
Simple direct mounting	Simple direct mounting with only one screw. The stud bolt included in delivery serves as an anti-rotation device. The mounting position can be freely selected in steps of 90°.
Manual override	Manual override with lever possible. Temporary gear disengagement by pushing the rotary knob. Permanent disengagement by pushing and simultaneous rotating the rotary knob clockwise 90°.
High functional reliability	The actuator switches off automatically when the end stops are reached.

☑ Electrical installation
Wiring diagrams

AC 230 V, 3-point

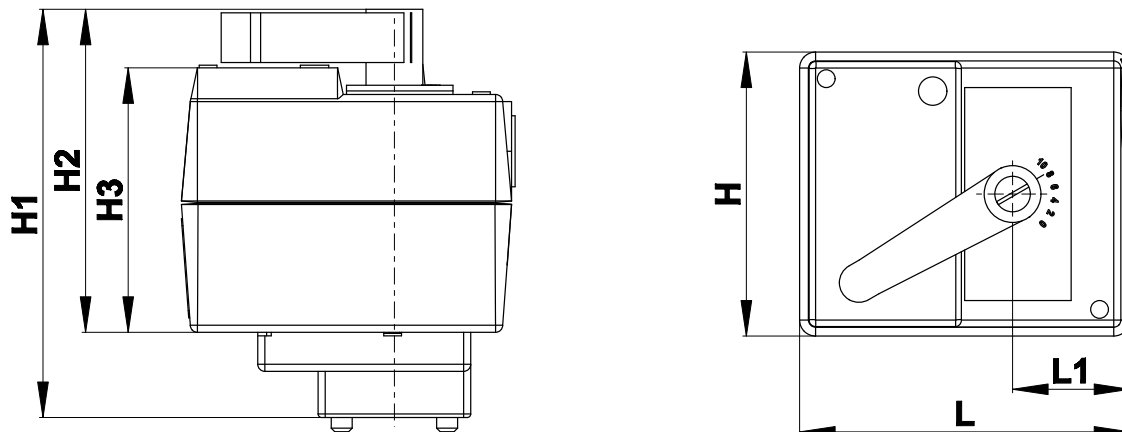


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☑ Dimensions



Art. nr.	Voltage	Adapter	Intended use	Position	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Weight [kg]
1 7712 60	230 V	WNR-HE 1 7712 66	BV	2-point	80	115	91	74,5	93	33	0,44

☑ Technical data

Electrical data

Nominal voltage	AC 230 V
Nominal voltage frequency	50/60 Hz
Nominal voltage range	AC 198...264 V
Power consumption in operation	3.5 W
Power consumption for wire sizing	3.5 VA
Connection supply / control	Terminals 4 mm ² (cable Ø6...8 mm, 3-wire)
Parallel operation	No

Functional data

Torque motor	10 Nm
Position accuracy	±5%
Direction of motion motor	clockwise rotation
Manual override	temporary and permanent gear disengagement with rotary knob on the housing
Angle of rotation	90°
Running time motor	140 s / 90°
Duty cycle value	75% (= active time 140 s / operating time 187s)
Sound power level, motor	37 dB(A)
Position indication	Reversible scale plate

Safety data

Protection class IEC/EN	II reinforced insulation
Degree of protection IEC/EN	IP40
EMC	CE according to 2014/30/EU
Low voltage directive	CE according to 2014/35/EU
Mode of operation	Type 1
Rated impulse voltage supply / control	4 kV
Control pollution degree	3
Ambient temperature	0...50°C
Storage temperature	-30...80°C
Ambient humidity	Max. 95% r.H., non-condensing
Servicing	maintenance-free

Housing colours

Housing cover	red
Housing base	black

☑ Safety notes

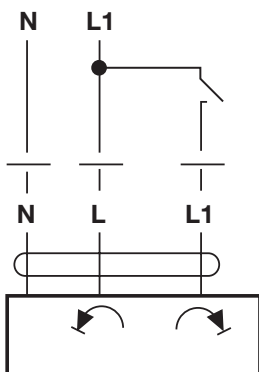
- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- The actuator is to be protected against moisture. It is not suitable for outdoor applications.
- To calculate the torque required, the specifications supplied by the mixing valve manufacturer must be observed.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The correct functioning of the strain relief for the cable in the actuator housing is to be checked.
- The installer must check for correct principle of operation after installation.
- The device does not contain any parts that can be replaced or repaired by the user.
- 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.
- Caution: Power supply voltage!

☑ Product features

Mode of operation	The actuator is activated with a 3-point signal.
Simple direct mounting	Simple direct mounting with only one screw. The stud bolt included in delivery serves as an anti-rotation device. The mounting position can be freely selected in steps of 90°.
Manual override	Manual override with lever possible. Temporary gear disengagement by pushing the rotary knob. Permanent disengagement by pushing and simultaneous rotating the rotary knob clockwise 90°.
High functional reliability	The actuator switches off automatically when the end stops are reached.

☑ Electrical installation
Wiring diagrams

AC 230 V, 2-point



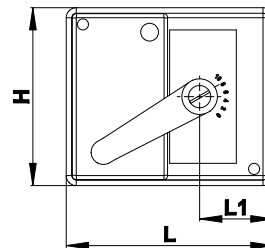
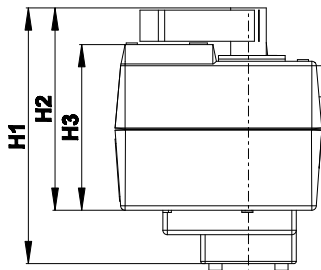
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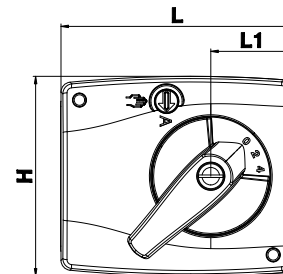
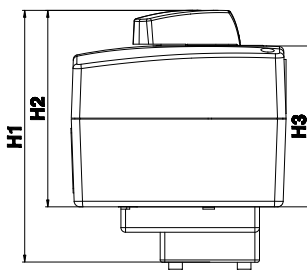
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1 7712 57



1 7712 62



Art. nr.	Voltage	Adapter	Intended use	Control	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Weight [kg]
1 7712 57	24 V	MSN-NRHE 1 7712 67	MIX V	0-10 V	80	115	91	74,5	93	33	0,44
1 7712 62	24 V	WNR-HE 1 7712 66	BV	0-10 V	80	109	85	70	93	33	0,44

☑ Technical data

Electrical data

Nominal voltage	AC/DC 24 V
Nominal voltage frequency	50/60 Hz
Nominal voltage range	AC 19.2...28.8 V / DC 19.2...28.8 V
Power consumption in operation	1.5 W
Power consumption for wire sizing	2.5 VA
Connection supply / control	Terminals 4 mm ² (cable Ø6...8 mm, 4-wire)
Parallel operation	Yes (note the performance data)

Functional data

Torque motor	10 Nm
Operating range Y	2...10 V
Operating range Y note	Operating range selectable 0...10 V or 2...10 V
Position feedback U	2...10 V
Position accuracy	±5%
Direction of motion motor	clockwise rotation
Manual override	temporary and permanent gear disengagement with rotary knob on the housing
Angle of rotation	90°
Running time motor	140 s / 90°
Duty cycle value	75% (= active time 140 s / operating time 187s)
Sound power level, motor	37 dB(A)
Position indication	Reversible scale plate

Safety data

Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
Degree of protection IEC/EN	IP40
EMC	CE according to 2014/30/EU
Mode of operation	Type 1
Rated impulse voltage supply / control	0,8 kV
Pollution degree	3
Ambient temperature	0...50°C
Storage temperature	-30...80°C
Ambient humidity	Max. 95% RH, non-condensing
Servicing	maintenance-free

Housing colours

Housing cover	red
Housing base	black

☑ Safety notes

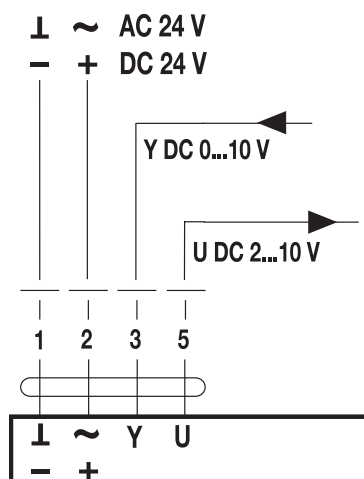
- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- The actuator is to be protected against moisture. It is not suitable for outdoor applications.
- To calculate the torque required, the specifications supplied by the mixing valve manufacturer must be observed.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The correct functioning of the strain relief for the cable in the actuator housing is to be checked.
- The installer must check for correct principle of operation after installation.
- The switch for changing the direction of rotation and operating range may only be adjusted by authorised specialists. The direction of rotation may not be changed when frost protection control is applied.
- The device does not contain any parts that can be replaced or repaired by the user.
- 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.
- Caution: Low voltage!

☑ Product features

Mode of operation	The actuator is activated with a 3-point signal.
Simple direct mounting	Simple direct mounting with only one screw. The stud bolt included in delivery serves as an anti-rotation device. The mounting position can be freely selected in steps of 90°.
Manual override	Manual override with lever possible. Temporary gear disengagement by pushing the rotary knob. Permanent disengagement by pushing and simultaneous rotating the rotary knob clockwise 90°.
High functional reliability	The actuator is overload protected and automatically stops when the end stop is reached. The actuator switches off for seven seconds in the case of blocking, then attempts to restart. If the blocked condition persists, the actuator attempts to restart once every two minutes a total of 15 times and subsequently only once every two hours.

☑ Electrical installation
Wiring diagrams

AC/DC 24 V, modulating



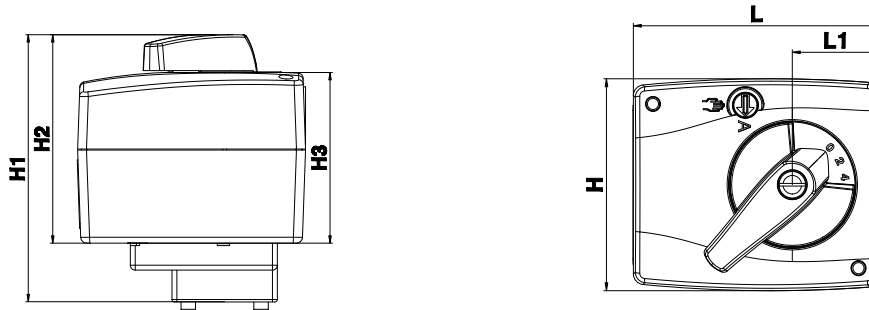
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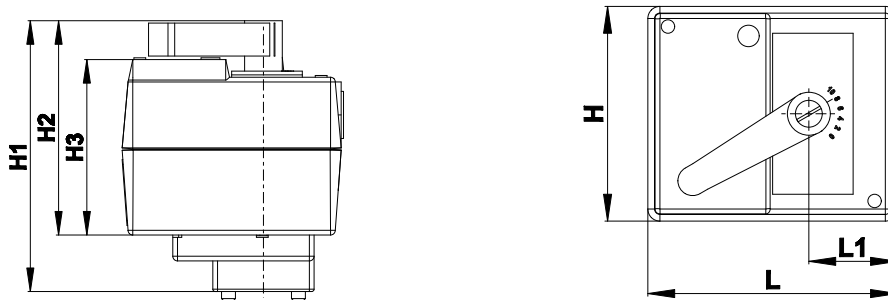
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☑ Dimensions

1 7712 56



1 7712 59



Art. nr.	Voltage	Adapter	Intended use	Position	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Weight [kg]
1 7712 56	24 V	MS-NRHE 1 7712 67	MIX V	3-point	80	109	85	70	93	33	0,44
1 7712 59	24 V	WNR-HE 1 7712 66	BV	3-point	80	115	91	74,5	93	33	0,44

☑ Technical data

Electrical data

Nominal voltage	AC/DC 24 V
Nominal voltage frequency	50/60 Hz
Nominal voltage range	AC 19.2...28.8 V / DC 19.2...28.8 V
Power consumption in operation	1.5 W
Power consumption for wire sizing	1.5 VA
Connection supply / control	Terminals 4 mm ² (cable Ø6...8 mm, 4-wire)
Parallel operation	No

Functional data

Torque motor	10 Nm
Position accuracy	±5%
Direction of motion motor	clockwise rotation
Manual override	temporary and permanent gear disengagement with rotary knob on the housing
Angle of rotation	90°
Running time motor	140 s / 90°
Duty cycle value	75% (= active time 140 s / operating time 187s)
Sound power level, motor	37 dB(A)
Position indication	Reversible scale plate

Safety data

Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
Degree of protection IEC/EN	IP40
EMC	CE according to 2014/30/EU
Mode of operation	Type 1
Rated impulse voltage supply / control	0,8 kV
Pollution degree	3
Ambient temperature	0...50°C
Storage temperature	-30...80°C
Ambient humidity	Max. 95% RH, non-condensing
Servicing	maintenance-free

Housing colours

Housing cover	red
Housing base	black

☑ Safety notes

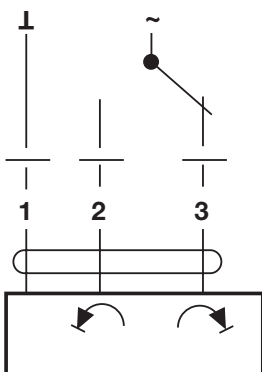
- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- The actuator is to be protected against moisture. It is not suitable for outdoor applications.
- To calculate the torque required, the specifications supplied by the mixing valve manufacturer must be observed.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The correct functioning of the strain relief for the cable in the actuator housing is to be checked.
- The installer must check for correct principle of operation after installation.
- The device does not contain any parts that can be replaced or repaired by the user.
- 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.
- Caution: Low voltage!

☑ Product features

Mode of operation	The actuator is activated with a 3-point signal.
Simple direct mounting	Simple direct mounting with only one screw. The stud bolt included in delivery serves as an anti-rotation device. The mounting position can be freely selected in steps of 90°.
Manual override	Manual override with lever possible. Temporary gear disengagement by pushing the rotary knob. Permanent disengagement by pushing and simultaneous rotating the rotary knob clockwise 90°.
High functional reliability	The actuator switches off automatically when the end stops are reached.

☑ Electrical installation
Wiring diagrams

AC 24 V, open/close

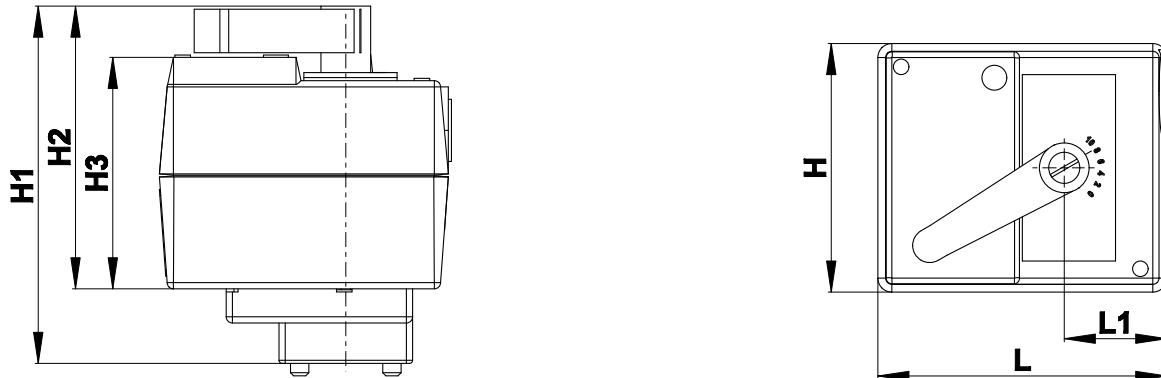


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☑ Dimensions



Art. nr.	Voltage	Adapter	Intended use	Position	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Weight [kg]
1 7712 58	24 V	WNR-HE 1 7712 66	MIX V	3-point	80	115	91	74,5	93	33	0,44

☑ Technical data

Electrical data

Nominal voltage	AC/DC 24 V
Nominal voltage frequency	50/60 Hz
Nominal voltage range	AC 19.2...28.8 V / DC 19.2...28.8 V
Power consumption in operation	1.5 W
Power consumption for wire sizing	1.5 VA
Connection supply / control	Terminals 4 mm ² (cable Ø6...8 mm, 4-wire)
Parallel operation	No

Functional data

Torque motor	10 Nm
Position accuracy	±5%
Direction of motion motor	clockwise rotation
Manual override	temporary and permanent gear disengagement with rotary knob on the housing
Angle of rotation	90°
Running time motor	140 s / 90°
Duty cycle value	75% (= active time 140 s / operating time 187s)
Sound power level, motor	37 dB(A)
Position indication	Reversible scale plate

Safety data

Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
Degree of protection IEC/EN	IP40
EMC	CE according to 2014/30/EU
Mode of operation	Type 1
Rated impulse voltage supply / control	0,8 kV
Pollution degree	3
Ambient temperature	0...50°C
Storage temperature	-30...80°C
Ambient humidity	Max. 95% RH, non-condensing
Servicing	maintenance-free

Housing colours

Housing cover	red
Housing base	black

☑ Safety notes

- 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.
- The actuator is to be protected against moisture. It is not suitable for outdoor applications.
- To calculate the torque required, the specifications supplied by the mixing valve manufacturer must be observed.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The correct functioning of the strain relief for the cable in the actuator housing is to be checked.
- The installer must check for correct principle of operation after installation.
- The device does not contain any parts that can be replaced or repaired by the user.
- 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.
- Caution: Low voltage!

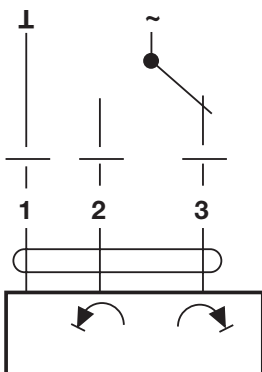
☑ Product features

Mode of operation	The actuator is activated with a 3-point signal.
Simple direct mounting	Simple direct mounting with only one screw. The stud bolt included in delivery serves as an anti-rotation device. The mounting position can be freely selected in steps of 90°.
Manual override	Manual override with lever possible. Temporary gear disengagement by pushing the rotary knob. Permanent disengagement by pushing and simultaneous rotating the rotary knob clockwise 90°.
High functional reliability	The actuator switches off automatically when the end stops are reached.

☑ Electrical installation

Wiring diagrams

AC 24 V, open/close

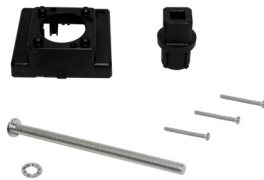





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Spare parts

Image	Art. nr.	Type	Description	Suitable
	1 7712 66	WNR-HE	Adapter for mounting on BV, possible mounting on MIX V motor drive which is then suitable for mounting on BV	1 7712 58 1 7712 59 1 7712 60 1 7712 61 1 7712 62
	1 7712 67	MS-NRHE	Adapter for mounting on MIX V	1 7712 56 1 7712 57 1 7712 63
	1 7781 03	/	Handle and scale for MIX V motor drive	1 7712 56 1 7712 61 1 7712 62 1 7712 63
		/	Handle and scale for BV	1 7712 57 1 7712 58 1 7712 59 1 7712 60