AVM 124: Valve drive

How energy efficiency is improved
Cut-off in end position to save energy.

Areas of application
Actuation of through and three-way valves in the VUN/BUN, VUD/BUD and VUE/BUE, DN 15 to DN 50 series. For controllers with a switching output (3-point control).

Features
- Pushing force 800 N
- Stepping motor with electronic control unit and electronic load-dependent cut-off
- Maintenance-free gearbox
- Manual positioning using external hand crank with motor cut-off
- LED display
- Coding switch for changing over running time (30, 60, 120 s)

Technical description
- 230 V power supply
- Two-part housing made of self-extinguishing plastic, lower section black, cover transparent
- Body of gearbox and mounting bracket for fitting valve made of cast zinc
- Electrical connections (max. 1.5 mm²) with screw terminals
- Cable entry M20 × 1.5
- Installation position: vertical to horizontal, but not upside down

Type	Running time s	Stroke mm	Pushing force N	Power	Weight kg
AVM 124 F130	30 / 60 / 120	8	800	230 V~	2.1

Power supply	230 V~ ± 15%, 50/60 Hz	Degree of protection 1)	IP 54 as per EN 60529
		Protection class	II as per EN 60730
Power consumption	3.2 W 4.0 VA	Min. response time	200 ms
max. operating temperature	100 °C at valve	Wiring diagram	A09855
Permissible ambient temp.	5...60 °C	Dimension drawing	M07430
Ambient humidity	< 95% rh without condensation	Fitting instructions	MV 505809
		Declaration of materials	MD 51.365

Accessories
0370880 001 Mechanical stroke indicator; MV 505517
0370881 001* Auxiliary change-over contacts 2), simple; MV 505517
0370882 001* Auxiliary change-over contacts 2), simple, with pot. 2000 Ω, 1 W; 24 V; MV 505517
0370882 006* Auxiliary change-over contacts 2), simple, with pot. 1000 Ω, 1 W; 24 V; MV 505517
0370883 001* Potentiometer 2000 Ω, 1 W; 24 V; MV 505517
0370883 006* Potentiometer 1000 Ω, 1 W; 24 V; MV 505517
0372249 001* Intermediate piece required for media temperature >100 °C for BXN / VXN (recommended for temperature < 10 °C); MV 505932
0372460 001 Cable screw fitting (plastic M20 × 1.5) incl. locking nut and gasket, max. 2 pcs.

*) Dimension drawing or wiring diagram are available under the same number

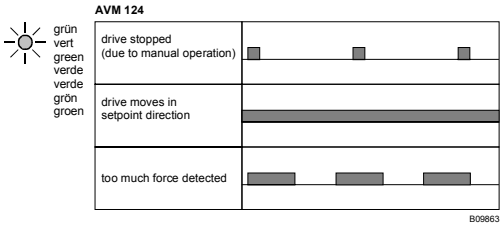
1) Degree of protection IP 54 only with cable screw fitting
2) Infinitely variable; max. load 2 (1) A, 12 ...250 V~, min. load 250 mA, 12 V~

Operation
By applying power to terminals 1-2a (or 1-2b), the final control element can be moved to any desired position by means of the coupling rod. This extends (or the valve opens) if power is applied to the drive at terminals 1 and 2a, but retracts if applied to terminals 1 and 2b.
In both end positions (on hitting a stop in the valve or reaching the maximum stroke), or in the event of an overload, the electronic motor cut-off is activated (no end switches).
The stroke direction can be changed by transposing the connections.
The green LED lights up whenever a command is at terminal 2a or 2b. When the stops have been reached and the command is still present, the LED flashes at intervals of about 2.5 seconds. In the case of pulse-modulated control signals (e.g. a 3-point PI controller), the LED always flashes at the same rate as the control signal.
When use is made of the external manual adjustment facility, the motor cuts out when the lever is folded out.

Coding switches

	S1	S2	S3 S4
120 s	off	on	
120 s	on	on	
60 s	on	off	unused
30 s	off	off	
	on	on	

LED



Engineering and fitting notes

The ingress of condensate, drops of water etc. along the valve spindle and into the drive should be prevented.

The drive and valve are fitted together by hand, then the screws are tightened; no further adjustment is necessary. The drive is delivered ex works in the middle position.

The concept of a stepping motor combined with electronics ensures parallel operation of more than one valve drive (of the same type).

The maximum number of accessories is a stroke indicator plus one other piece – auxiliary contacts, potentiometer or a combination thereof.

Fitting outdoors

If the devices are fitted outdoors, we recommend that additional measures be taken to protect them against the effects of the weather.

Additional technical information

Transparent cover with lever for manual adjustment. The black housing holds the stepping motor, the electronic control unit and the transformer. Underneath is the maintenance-free gear unit. By breaking out a pre-scored circle in the housing, it is possible to create an aperture to fit a second M20 cable screw fitting.

Auxiliary change-over contacts
Switch rating: max. 230 V a.c.; min. current 20 mA at 20 V
Switch rating: max. 4...30 V d.c.; min. current 1...100 mA

Power consumption:

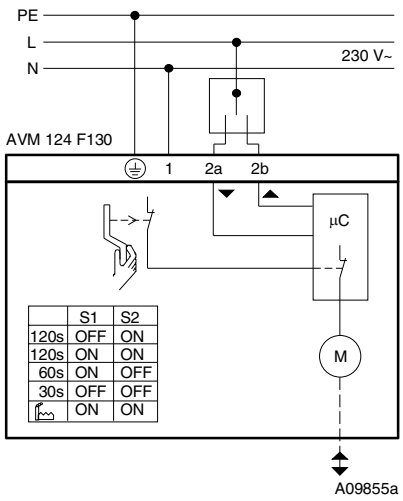
Type	Running time s	Condition	active power P W	apparent power S VA
AVM 124 F130	30	Operating	2.8	3.7
	60	Operating	3.1	4.0
	120	Operating	3.2	4.0
		Standstill	1.3	2.4

CE conformity

EMC Directive 2004/108/EC
EN 61000-6-1
EN 61000-6-2
EN 61000-6-3
EN 61000-6-4

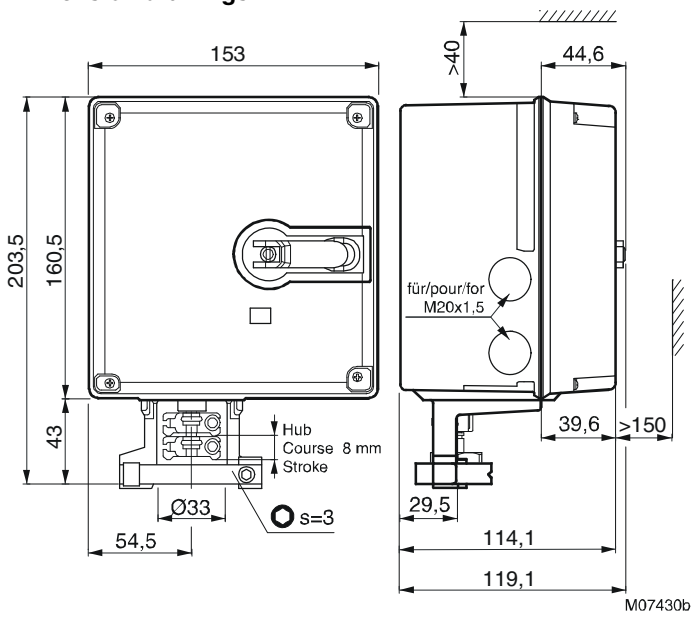
Low-voltage Directive 2006/95/EC
EN 60730 1
EN 60730-2-14
Over-voltage category III
Degree of pollution 3

Wiring diagram



	S1	S2
120s	OFF	ON
120s	ON	ON
60s	ON	OFF
30s	OFF	OFF
	ON	ON

Dimension drawings



Accessories

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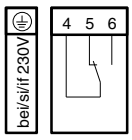

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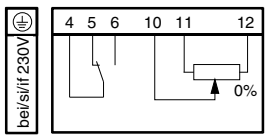

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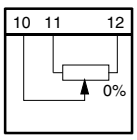

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