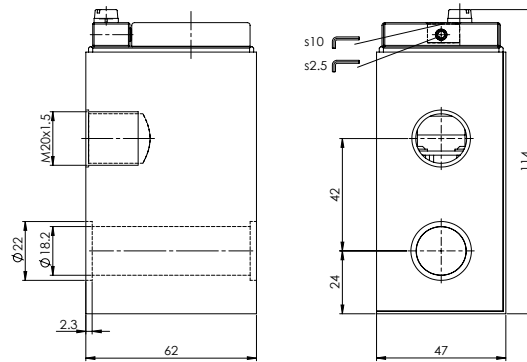


DIMENSIONS

without amplifier electronic


CHARACTERISTICS

Coil winding isolation class	H
Protection class acc. to EN 60529	IP65/66/67, with corresponding cable gland and correct installation
Relative duty factor	100 % DF, combined with armature tube and valve
Reference temperature	Execution L6 / L9: -25...+40 °C (operation as T1...T6/T80 °C) -25...+90 °C (operation as T1...T4/T130 °C) Execution L15: Temperature range „-25° to ...“ -25...+70 °C (operation as T1...T4/T130 °C) Temperature range „-40° to ...“ -40...+70 °C (operation as T1...T4/T130 °C) Temperature range „-60° to ...“ -60...+70 °C (operation as T1...T4/T130 °C)
Housing	Steel housing AISI 316L
Relative humidity factor	max. 95 % (not dew-forming)
Corrosion protection	Salt spray test in accordance with EN ISO 9227 > = 2000 hours
Maximum operating voltage	Nominal voltage +10 %
Nominal frequency	in acc. with name plate ±2 %
Standard nominal voltages	U _N = 12 VDC U _N = 24 VDC U _N = 115 VAC U _N = 230 VAC Other nominal voltages in the ranges of 12–230 VDC and 24–230 VAC on request

Standard nominal powers	P _N = 6 W	with M272	P _R = 3,8 W
	P _N = 9 W		
	P _N = 15 W		
	P _N = 21 W		

	12 VDC			
Nominal power (W)	6	9	15	21
Nominal resistance (Ω)	24,75	16,5	9,9	7,1
Recommended rated current for fuse inserts (mA)	1000	1600	2500	4000
Limiting current (mA) (Proportional function)	400	610	960	1230
	24 VDC			
Nominal power (W)	6	9	15	21
Nominal resistance (Ω)	98,5	64	38,5	27,5
Recommended rated current for fuse inserts (mA)	400	800	1250	2000
Limiting current (mA) (Proportional function)	200	300	450	600
	115 VAC			
Nominal power (W)	6	9	15	21
Nominal resistance (Ω)	1840	1180	700	500
Recommended rated current for fuse inserts (mA)	100	200	315	400
	230 VAC			
Nominal power (W)	6	9	15	21
Nominal resistance (Ω)	7280	4750	2850	2050
Recommended rated current for fuse inserts (mA)	100	100	160	200

M272 reduces the nominal power (P_N) after 500ms to a reduced power (P_R)

OPERATION SECURITY


The solenoid coil must only be put into operation, if the requirements of the operating instructions supplied are observed to their full extent.
 In case of non-observance, no liability can be assumed.

A corresponding fuse in accordance with its design current has to be connected in series as short-circuit protection for every solenoid coil.

INSTALLATION

For stack assembly please observe the remarks in the operating instructions.

With amplifier electronics and with analogue interface

Digital amplifier electronics to MKY...M248

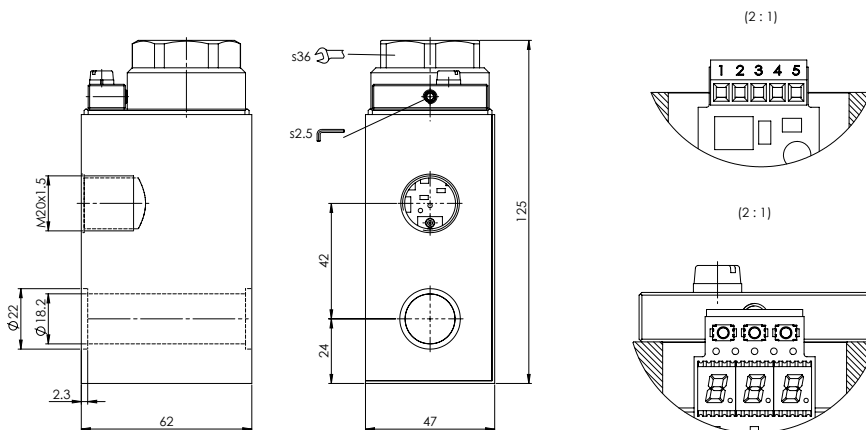
- Electronics integrated in solenoid housing
- For proportional or switching valves
- Screw terminals for simple assembly
- 1 analogue input
- 1 digital input
- Adjustable with push-buttons and display directly on the device or via PC

ELECTRICAL SPECIFICATIONS

Supply voltage	G12: 12 V +10 %, G24: 24 V +10 %		G24/L9 Adjustable I_{\min} ...510 mA
Residual ripple	< +/-5 %		Factory setting 300 mA
Fuse	low		G12/L9 Adjustable I_{\min} ...685 mA
No-load current	approx. 20 mA		Factory setting 610 mA
Max. current consumption	No-load current + limiting current of the solenoid	Dither	Frequency adjustable 4...500 Hz
Analogue input	1 input non-differential Voltage / current (switchable by means of parameter) 0...+/- 10V or 0/4...20mA	Temperature drift	Factory setting 80 Hz
Resolution	10-Bit	Digital inputs	Level adjustable 0...400 mA
Input resistance	Voltage input >100 k Ω (Input current < 5 mA)		Factory setting 150 mA
Stabilised output voltage	5 VDC max. load 20 mA		<1 % at $\Delta T = 40^\circ C$
<i>Solenoid current:</i>		USB interface	1 input high-active, no pull-up/down
• Minimal current I_{\min}	Adjustable 0... I_{\max} mA Factory setting 30 mA	EMC	Switching threshold high 6...32 VDC
• Maximal current I_{\max}	G24/L15 Adjustable I_{\min} ...510 mA Factory setting 450 mA	Immunity	Switching threshold low 0...1 VDC
	G12/L15 Adjustable I_{\min} ...1020 mA Factory setting 960 mA	Emission	Usable as frequency input (frequency 5...5000 Hz) and as PWM input (automatic frequency recognition)
			Via digital input Requires the Wandfluh USB adapter PD2
			EN 61 000-6-2
			EN 61 000-6-4

DIMENSIONS

with amplifier electronic

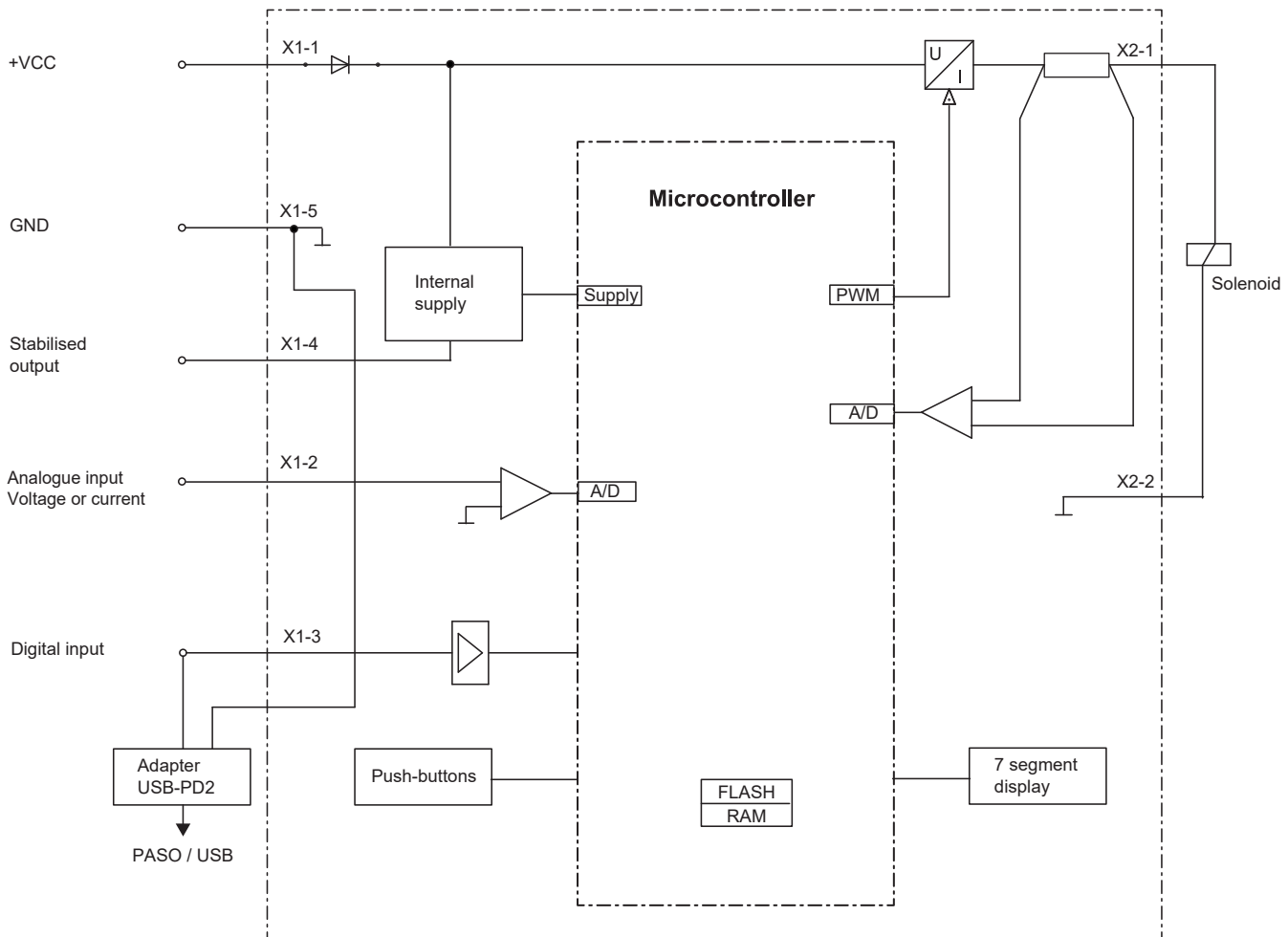


CONNECTOR ASSIGNMENT (X1)

- 1 = + VDC
- 2 = Command value
- 3 = Dig Inp
- 4 = Stab out
- 5 = GND

GENERAL SPECIFICATIONS

Execution	Electronics board built-in directly in solenoid housing
Connections	
Screw terminal	5-pole, max. 1.0 mm ²
USB interface	via connection «Digital Input», requires an additional Wandfluh adapter PD2

BLOCK DIAGRAM

START-UP

Information regarding installation and commissioning are contained in the information leaflet supplied with the amplifier electronics and in the operating instructions.

ADDITIONAL INFORMATION

	Wandfluh documentation
Proportional spool valve	register 1.10
Proportional pressure valves	register 2.3
Proportional flow control valves	register 2.6

Free-of-charge download:

- «PASO-PD2» Parameterisation software
- Operating instruction (*.pdf)

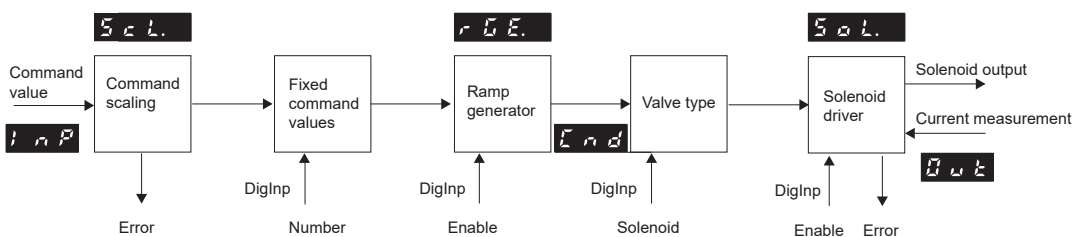
ACCESSORIES

USB adapter PD2	Article no. 726.9900
incl. USB cable, 1,8 m	
(for parameterisation via PASO)	

PARAMETER SETTINGS

The MKY electronics have push-buttons and a display which enable setting the most important parameters. In addition, the digital input can be used as a communication interface, through which, by means of the parameterisation software "PASO-PD2", the complete parameterisation and diagnostics can be carried out. For this, the Wandfluh USB-PD2 adapter is required

Attention: During the communication, the digital input cannot be used.

FUNCTION DESCRIPTION


AMPLIFIER WITH ANALOGUE INTERFACE

Command value scaling

The command value can be applied as a voltage, current, digital, frequency or PWM signal. The scaling takes place via the parameter "Interface". Furthermore, the command value can be monitored for a cable break. A dead band can also be set.

Fixed command value

There is 1 fixed command value available, which can be selected via the digital input. This function has to be configured before in ASO.

Ramp generator

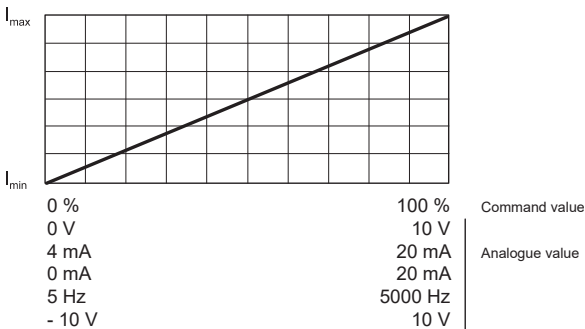
Two linear ramps for up and down are available which can be adjusted separately.

Valve type

Adjustment possibilities: switching solenoid or proportional solenoid.

Mode of operation „Command value unipolar/bipolar (1-Sol)

Dependent on a command value signal (voltage, current, digital, frequency or PWM), the solenoid is driven (e.g. 0...10V correspond to 0...100 % command value, 0...+100 % command value correspond to Imin...Imax solenoid driver)



Signal recording

Furthermore, the „PD2“ amplifier electronics have a signal recording function. This, by means of PASO, enables the recording of various system signals, such as command value, solenoid current, etc., which can be represented on a common time axis.

Solenoid driver

A Pulse-Width-Modulated current output is available. A dither signal is superimposed, whereby the dither frequency and the dither level are separately adjustable. The minimum (Imin) and maximum (Imax) current can be adjusted. The solenoid output can also be configured as switching solenoid output. In this case, a power reduction can be adjusted.

Optimisation of characteristic curve

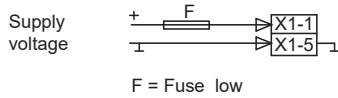
An adjustable characteristic curve „Command value input – solenoid current output“ enables an optimised (e.g. linearised) characteristic of the hydraulic system.

Channel enabling

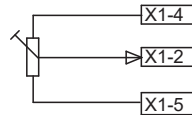
The device is enabled as per factory setting. Via PASO or menu item, the digital input can be configured for enabling.

CONNECTION EXAMPLES

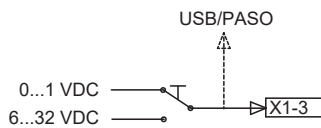
Supply voltage



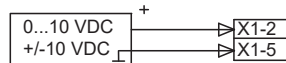
Analogue input with potentiometer



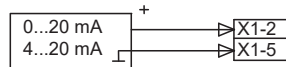
Digital input as function input



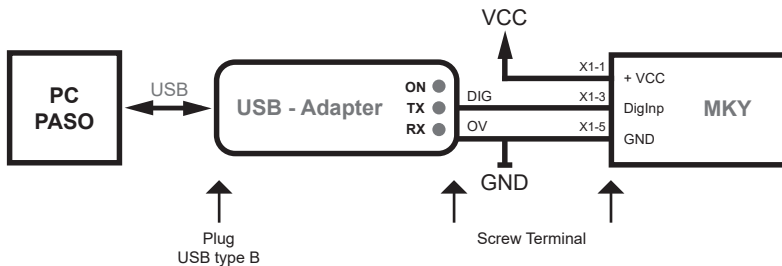
Analogue input voltage with external voltage source



Analogue input current with external current source



Digital input as USB interface



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 Астана (7172)727-132
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 Барнаул (3852)73-04-60
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