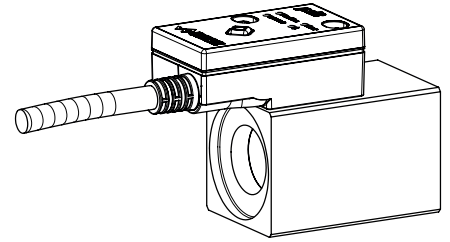


Solenoid coil acc. to VDE 0580

- With integrated amplifier electronics PD3
- Protection class IP 67
- Interface: - IO-Link (with Master Typ B)
- Analogue
- Adjustable via Bluetooth by means of the Wandfluh App


DESCRIPTION

Solenoid coil with integrated amplifier electronics. Protection class is IP67. The electronics are fixed mounted on the solenoid coil. The construction corresponds to standard VDE 0580. The steel housing is zinc nickel coated.

FUNCTION

The electronics has a Pulse-Width-Modulated current output. The solenoid output can also be parameterised for switching solenoids. The parameterisation is made via Bluetooth by means of the Wandfluh App.

APPLICATION

Due to its water spray resistant execution, the solenoid coil is suitable for most diverse applications.

It can be used on all proportional valves with 19 mm, 23 mm resp. 31 mm armature tube diameters.

Easy connecting enables assembly and commissioning with conventional tools. All settings can be carried out easily and quickly.

TYPE CODE

		M	T		-	P	1	-		#	
Metal housing square											
Integrated amplifier electronics PD3											
Coil execution											
Square 35 mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Square 60 mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Square 45 mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Square 60 mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Connection cable away from the solenoid											
1-solenoid execution											
Nominal voltage U _N	12 VDC	<input type="checkbox"/>	<input type="checkbox"/>	24 VDC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IO-Link											
Analogue input	voltage/current (0...5V factory preset)	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design index (subject to change)											

* only for proportional spool valve NG10

GENERAL SPECIFICATIONS

Connections	Connection cable with M12 connector (male) 5 pole length = 1,5 m
Dimensions	See drawing on page 3
Ambient temperature	-20...+85 °C (Derating, see Operating Instructions PD3)

Архангельск (8182)63-90-72
 Астана (7172)727-132
 Астрахань (8512)99-46-04
 Барнаул (3852)73-04-60
 Белгород (4722)40-23-64
 Брянск (4832)59-03-52
 Владивосток (423)249-28-31
 Волгоград (844)278-03-48
 Вологда (8172)26-41-59
 Воронеж (473)204-51-73
 Екатеринбург (343)384-55-89
 Иваново (4932)77-34-06

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 Курск (4712)77-13-04
 Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
 Москва (495)268-04-70
 Мурманск (8152)59-64-93
 Набережные Челны (8552)20-53-41
 Нижний Новгород (831)429-08-12
 Новокузнецк (3843)20-46-81
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 Оренбург (3532)37-68-04
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 Томск (3822)98-41-53
 Тула (4872)74-02-29
 Тюмень (3452)66-21-18
 Ульяновск (8422)24-23-59
 Уфа (347)229-48-12
 Хабаровск (4212)92-98-04
 Челябинск (351)202-03-61
 Череповец (8202)49-02-64
 Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47

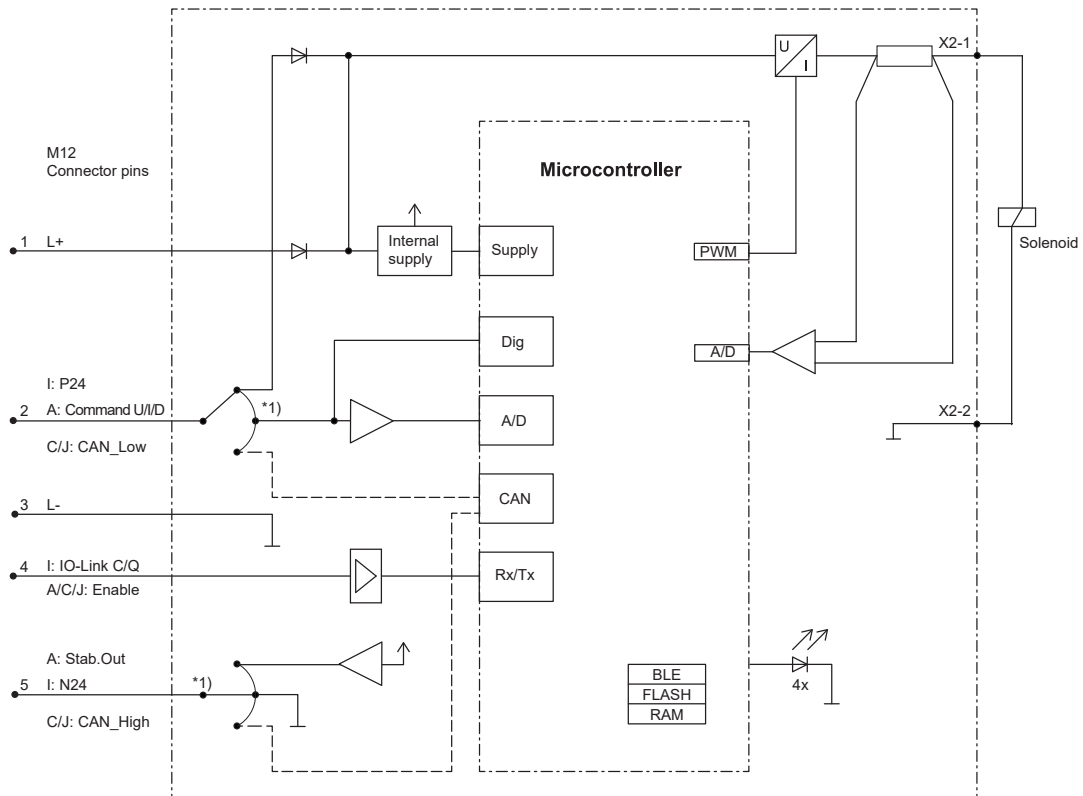
Россия (495)268-04-70

Казахстан (772)734-952-31

Amplifier with analogue interface

ELECTRICAL SPECIFICATIONS

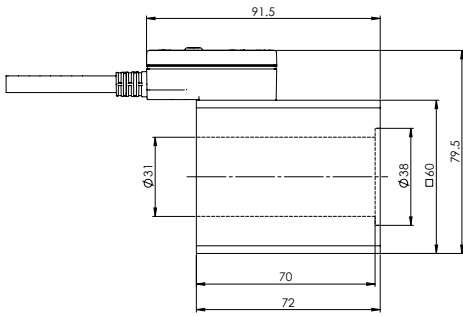
Protection class Supply voltage Residual ripple Fuse No-load current Max. current consumption Command value input Resolution Input resistance Stabilised output voltage Solenoid current: • Minimal current I_{min} • Maximal current I_{max}	IP 67 acc. to EN 60 529 IO-Link: 24 V (18..30V), analogue: 8..32V < 1.3 Vpp Low Approx. 30 mA No-load current + 2,5 A per solenoid 1 input non-differential Voltage / current (switchable by means of parameter) 0...+ 10V or 0/4...20mA Usable as frequency input (frequency 5...5000 Hz) or as PWM input (automatic frequency detection) or digital dig. switching threshold high >3V dig. switching threshold low <0.8V 12-bit Voltage input >100 kΩ Load for current input = 124 Ω 5 VDC max. load 20 mA Adjustable 0... I_{max} mA Factory setting 50 mA Adjustable I_{min} ...2500 mA MTS35/19x50...-12, Factory setting 1360 mA MTS35/19x50...-24, Factory setting 680 mA MTS45/23x50...-12, Factory setting 1490 mA MTS45/23x50...-24, Factory setting 780 mA MTS60/31x72...-12, Factory setting 2290 mA MTA60/31x72...-12, Factory setting 2290 mA MTS60/31x72...-24, Factory setting 1140 mA MTA60/31x72...-24, Factory setting 1140 mA	Dither Temperature drift Enable input Ramps IO-Link interface Bluetooth Fieldbus (option) LEDs Supply solenoid EMV Immunity Emission	Frequency adjustable 4...500Hz Factory setting 80Hz Level adjustable 0...400mA Factory setting 180mA <1% bei $\Delta T = 40^\circ C$ 1 input high-active Switching threshold high 1/2 VCC +2V Switching threshold low 1/2 VCC -2V Adjustable 0...500s Data line C/Q, COM2 = 38,4 kBaud Use master type B Low Energy with access protection Contains FCC ID: QQQ11 CANopen (on request) J1939 (on request) Function green Bluetooth blue IO-Link green Error red with IO-Link galvanically separated via P24/N24 2014/53/EU (Radio Equipment Directive) ETSI EN 300 328 47 CFR, Part 15 / ICES-003 ETSI EN 301 489-1 / 301 489-17 EN 61 000-6-2 EN 61 000-6-4
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BLOCK DIAGRAM


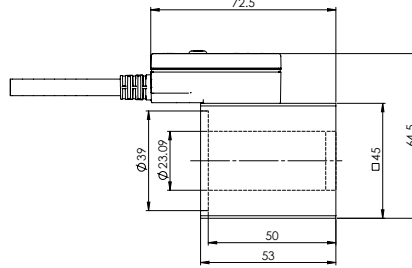
*1) fix selection according to type code

DIMENSIONS

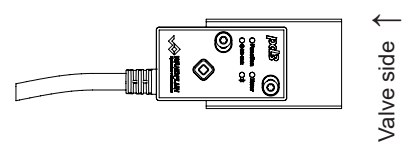
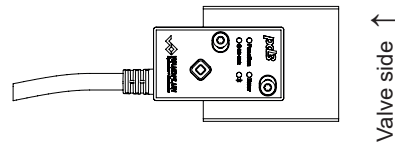
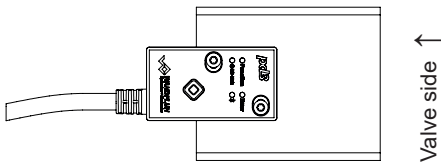
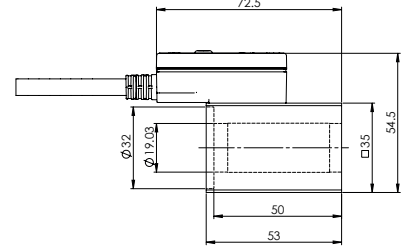
MT.60/31x72

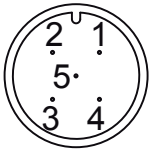


MT.45/23x50



MT.35/19x50


CONNECTOR ASSIGNMENT

 Valve connection cable (X1)
 With mounted M12 connector
 5 pole male A coded


- 1 (brown)
- 2 (green)
- 3 (grey)
- 4 (white)
- 5 (yellow)

Typ analogue

- Supply voltage VCC +
- Command value signal
- Supply 0 VDC/GND
- Digital input
- Stabilised output voltage*

Typ I/O-Link

- L+ supply voltage +
- P24/2L+ additional supply +
- L-supply 0 VDC/GND
- C/Q
- N24/2L-additional supply 0 VDC

*Caution: Some M12 distributor boxes have the earth connection on pin 5 → Short-circuit hazard!

START-UP

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

Free-of-charge download:

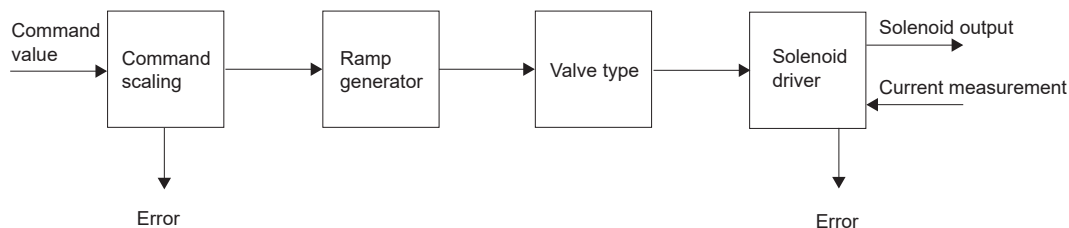
- Operating instruction (*.pdf)
- Wandfluh App for Android (Google Play) and iOS (App Store)

ADDITIONAL INFORMATION

Wandfluh electronics general	Wandfluh documentation register
Digital amplifier electronics PD3	1.13
Proportional spool valves	1.13-66
Proportional pressure valves	1.10
Proportional flow control valves	2.3
	2.6

ADJUSTMENTS

The PD3 electronics has a Bluetooth interface. Via the Wandfluh App, the PD3 functions can be analysed and all parameters set.

FUNCTION DESCRIPTION


PD3-AMPLIFIER
Command value scaling

Type IO-Link: The command value can only be specified via IO-Link.
 Type analogue: The command value can be specified as a voltage, current, digital, frequency or PWM signal.

Ramp generator

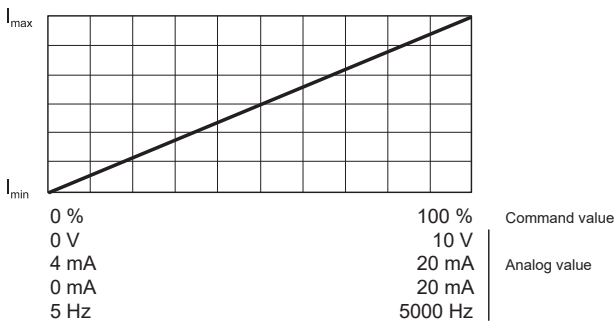
Two linear ramps for up and down are available which can be adjusted separately.

Valve type

Adjustment possibilities: switching solenoid or proportional solenoid.

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

Dependent on a command value signal (IO-Link, voltage, current, digital, frequency or PWM), the solenoid is controlled (e.g. 0...10V correspond to 0...100 % command value, which again corresponds to Imin...Imax solenoid driver).

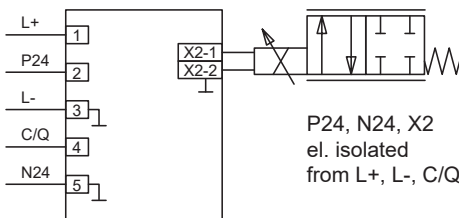
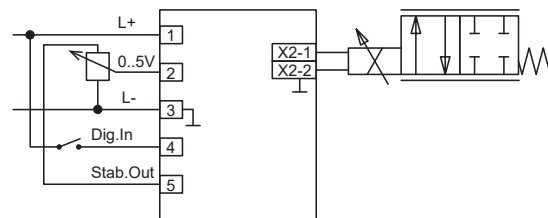

Solenoid driver

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.

Channel enabling

Enable can be configured by means of the App:

- on
- off
- external (enable input with type analogue)
- bus (with type IO-Link)

CONNECTION EXAMPLES
Connection example IO-Link

Connection example analogue with stabilised output


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Киргизия (996)312-96-26-47

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