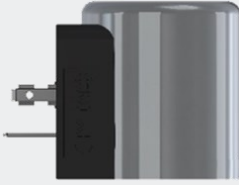
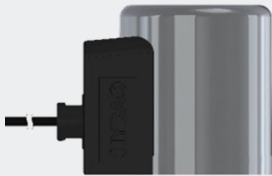


CONNECTION TYPES

G



L



N



T



U



Solenoid coils for proportional valves for electromagnetic actuation

Direct current (DC)

PRODUCT ADVANTAGES

- **Maximum force with minimum space requirements**
due to layer-wound coil with maximum copper insertion and minimum space requirement. Prevents damage to the wire insulation (avoidance of short circuits)
- **Fully encapsulated coil**
with internal coil sealing prevents ingress of moisture and thus short circuits in the winding
- **Designed for 100 % duty cycle**
at I_{max} and ambient temperatures from -20 °C to $+60\text{ °C}$
- **Low energy consumption**
through optimised design of the force/energy ratio
- **High mechanical resistance and corrosion protection**
due to zinc-nickel coated steel casing
- **High thermal load capacity**
up to insulation class H (180 °C)
- **5 different electrical connection types with protection classes IP65, IP67 or IP69 as standard**
- **Any mounting direction**
due to symmetrical coil design
- **Extensive range of coils with UL approval**
certified according to UL94 with Flame Rating V-0

CONTENTS

Connection types	1
Product advantages	1
Specifications	2
Model code	2
Description	3
Connection plug	3
Available coils	3
Dimensions	5
Coil - valve assignment	6

SPECIFICATIONS

Duty cycle	100 % (S1) up to the max. control current at max. 60 °C* ambient temperature
Coil (according to DIN VDE 0580)	Insulation class H for sizes 1329 and 1836 Insulation class F for sizes 2345 and 3164
Max. permissible winding temperature	180 °C for sizes 1329 and 1836 155 °C for sizes 2345 and 3164
Coil surface temperature depending on usage behaviour and ambient temperature	>100 °C for sizes 1329, 1836, 2345 and 3164
Ambient temperature range*	-30 °C to +60 °C for sizes 1329, 1836 and 2345 -30 °C to +50 °C for size 3164 The information in the valve leaflet must also be observed.
Coil casing	Steel, ZnNi coating
Plug socket	Polyamide, black

*This value applies to a screw-in cartridge valve installed in a standard inline connection housing. An extension of the max. ambient temperature range to +80 °C is possible if the surface temperature of the housing during operation is reduced to max. 100 °C by suitable heat dissipation.

Heat dissipation has to be always ensured in the application during valve operation, e.g. by convection or a flow of pressurised fluid through the control block.

For more information, see "Operating conditions and instructions for valves" in brochure 53.000.

Note

All parameters refer to a coil mounted on a valve.

MODEL CODE

The model code provides an overview. For available types, see table "Available coils" from page 3.

Coil 12 PG 01 - 2.8 - 50-2345 -S

Designation

Nominal voltage

12 = 12 V DC

24 = 24 V DC

Further versions from page 3 and on request.

Voltage type

P = Proportional coil with direct current (DC)

Connection type

		Poles	Connection	Protection class
G	= Plug A/B acc. to DIN EN 175301-803	3-pole	radial	IP65
L	= 2 flying leads 0.75 mm ² x 457 mm (18")	2-pole	radial	IP65 / IP67
N	= DEUTSCH plug connector DT04-2P	2-pole	axial	IP67 / IP69
T	= AMP Junior Timer	2-pole	radial	IP65 / IP67
U	= AMP Junior Timer	2-pole	axial	IP65 / IP67

Further versions on request.

Variant (depending on connection type)

n./a. = Standard

01 = Additional cable lengths for connection type L (02, 03, etc.)

Resistance

2.8 = 2.8 Ohm resistance

Size	Coil length	Inside-Ø	Outside-Ø	Weight
32-1329	= 32 mm -	13 mm	29 mm	0,10 kg
40-1836	= 40 mm -	18 mm	36 mm	0,19 kg
50-1836	= 50 mm -	18 mm	36 mm	0,24 kg
50-2345	= 50 mm -	23 mm	45 mm	0,35 kg
75-3164	= 75 mm -	31 mm	64 mm	1,00 kg

Optional specifications

-S = with O-ring for sealing the coil on industrial valve bodies in nominal size 6

UL V0 = UL certification of coils with flame rating V-0 according to UL94

Note

Specification of the protection class according to EN 60529 applies to suitable and correctly installed cable socket.

DESCRIPTION

The solenoid coil is generally manufactured as a direct current (DC) coil.

Special coils are generally available on customer request - please contact your responsible sales partner.

Coils for directional valves can be found in our separate brochure.

Connection plug

A cable socket is available for coils of connection type G with a design in accordance with DIN EN 175301-803 via part no. 394287.

To fulfil the protection class (IP code), the coil must be installed correctly on the valve and a connector plug must be used that corresponds to the protection class.

AVAILABLE COILS

CONNECTION TYPE G

IP65

DIRECT CURRENT (DC)

Coil family	Voltage U_{Nom} [V]	Resistance R_{20} [Ω]	Current I_{max} [A]	Designation	Part no.
32-1329	12	5.6	1.2	Coil 12PG-5.6 321329	4059964
40-1836	12	2.2	2.1	Coil 12PG-2.2 401836	3109230
	12 UL V0 ¹	2.2	2.1	Coil 12PG-2- 2 401836 -S	3400177
	24	8.8	1.05	Coil 24PG-8.8 401836	3109229
	24 UL V0 ¹	8.8	1.05	Coil 24PG-8- 8 401836 -S	3400178
50-1836	12	4.1	1.75	Coil 12PG-4.1 501836	3179976
	12 UL V0 ¹	4.1	1.75	Coil 12PG-4- 1 501836 -S	3401792
	24	8.8	1.2	Coil 24PG-8.8 501836	3535264
	24	17.6	0.85	Coil 24PG-18-50-1836	3179953
	24 UL V0 ¹	17.6	0.85	Coil 24PG-18-50-1836 UL V0	3401793
	24	35	0.58	Coil 24PG-35-50-1836	3357677
50-2345	24 UL V0 ¹	35	0.58	Coil 24PG-35-50-1836 UL V0	3401794
	12	5.1	1.6	Coil 12PG-5.1 502345	3274856
	12 UL V0 ¹	5.2	1.6	Coil 12PG-5-50-2345 UL V0	3401785
	12 s	2.8	2.25	Coil 12PG-2- 8 502345 -S	4356846
	24	18	0.82	Coil 24PG-18-50-2345	3274857
	24 UL V0 ¹	19.2	0.8	Coil 24PG-19- 2 502345 -S	3401786
75-3164	24 s	18	0.86	Coil 24PG-5- 1 502345 -S	4356848
	12	3.2	2.5	Coil 12PG-3.2 753164	4362749
	24	5.5	1.9	Coil 24PG-5.5 753164	4362402
	24	8.8	1.6	Coil 24PG-8.8 753164	4692432

¹UL certification of coils with flame rating V-0 in accordance with UL94.

CONNECTION TYPE L

IP65/IP67

DIRECT CURRENT (DC)

Coil family	Voltage U_{Nom} [V]	Resistance R_{20} [Ω]	Current I_{max} [A]	Designation	Part no.
40-1836	12	2.2	2.1	Coil 24PL-8.8 401836	3110048
	24	8.8	1.05	Coil 12PL-2.2 401836	3109947
50-1836	12	4.1	1.75	Coil 12PL-4.1 501836	3179980
	24	8.8	1.2	Coil 24PL03-8.8 501836	4249510
	24	17.6	0.85	Coil 24PL-18-50-1836	3179985
50-2345	12	5.2	1.8	Coil 12PL01-5-50-2345*	3523216
	12	5.2	1.6	Coil 12PL02-5-50-2345*	3544308

*Cable lengths: PL01 = 325 ±10 mm | PL02 = 120 ±10 mm | PL03 = 396 ±10 mm

CONNECTION TYPE N
IP67/IP69
DIRECT CURRENT (DC)

Coil family	Voltage U_{Nom} [V]	Resistance R_{20} [Ω]	Current I_{max} [A]	Designation	Part no.
32-1329	12	5.6	1.2	Coil 12PN-5.6 321329	4079864
	24	12.7	0.64	Coil 24PN-12.7 321329	3888710
	24	23.7	0.58	Coil 24PN-23.7 321329	4431775
40-1836	12	2.2	2.1	Coil 12PN-2.2 401836	3110056
	12 UL V0 ¹	2.2	2.1	Coil 12PN-2- 2 401836 -S	3426831
	12	11	0.95	Coil 12PN-11-40-1836	4180224
	24	8.8	1.05	Coil 24PN-8.8 401836	3110057
	24 UL V0 ¹	8.8	1.05	Coil 24PN-8- 8 401836 -S	3426870
50-1836	12	4.1	1.75	Coil 12PN-4.1 501836	3179990
	12 UL V0 ¹	4.1	1.75	Coil 12PN-4- 1 501836 -S	4373441
	24	8.8	1.2	Coil 24PN-8.8 501836	4216988
	24	17.6	0.85	Coil 24PN-18-50-1836	3179991
	24 UL V0 ¹	17.6	0.85	Coil 24PN-18-50-1836 UL V0	3426955
50-2345	12	2.8	2.4	Coil 12PN-2.8 502345	4150146
	12 s	2.8	2.25	Coil 12PN-2- 8 502345 -S	4356849
	12	5.1	1.6	Coil 12PN-5.1 502345	3490265
	24 s	5.1	1.6	Coil 24PN-5- 1 502345 -S	4356851
	24	18	0.82	Coil 24PN-18-50-2345	3490243
75-3164	12	3.2	2.5	Coil 12PN-3.2 753164	4406246
	24	5.5	1.9	Coil 24PN-5.5 753164	4406247

¹UL certification of coils with flame rating V-0 in acc. with UL94.

CONNECTION TYPE T
IP65/IP67
DIRECT CURRENT (DC)

Coil family	Voltage U_{Nom} [V]	Resistance R_{20} [Ω]	Current I_{max} [A]	Designation	Part no.
40-1836	12	0.7	3.7	Coil 12PT-0.7 401836	4041817
	12	2.2	2.1	Coil 12PT-2.2 401836	3162388
	12 UL V0 ¹	2.2	2.1	Coil 12PT-2- 2 401836 -S	3426904
	24	8.8	1.05	Coil 24PT-8.8 401836	3162390
	24 UL V0 ¹	8.8	1.05	Coil 24PT-8- 8 401836 -S	3426919
50-1836	12	4.1	1.75	Coil 12PT-4.1 501836	3120939
	12 UL V0 ¹	4.1	1.75	Coil 12PT-4- 1 501836 -S	3426961
	24	18	0.85	Coil 24PT-18-50-1836	3120938
	24 UL V0 ¹	18	0.85	Coil 24PT-18-50-1836 UL V0	3426970

¹UL certification of coils with flame rating V-0 in acc. with UL94.

CONNECTION TYPE U
IP65/IP67
DIRECT CURRENT (DC)

Coil family	Voltage U_{Nom} [V]	Resistance R_{20} [Ω]	Current I_{max} [A]	Designation	Part no.
40-1836	12	2.2	2.1	Coil 12PU-2.2 401836	3068138
	24	8.8	1.05	Coil 24PU-8.8 401836	3103079
	36	17.7	0.75	Coil 36PU-18-40-1836	3228930
	48	41.7	0.5	Coil 48PU-42-40-1836	3235036
50-1836	12	4.1	1.75	Coil 12PU-4.1 501836	3097401
	24	18.0	0.85	Coil 24PU-18-50-1836	3093760
50-2345	12	5.1	1.6	Coil 12PU-5.1 502345	3274858
	12 UL V0 ¹	5.2	1.6	Coil 12PU-5-50-2345 UL V0	3401788
	24	18	0.82	Coil 24PU-18-50-2345	3274859
	24 UL V0 ¹	19.2	0.8	Coil 24PU-19- 2 502345 -S	3401791

¹UL certification of coils with flame rating V-0 in acc. with UL94.

UNIT DIMENSIONS

DIRECT CURRENT (DC)	32-1329	40-1836	50-1836	50-2345	75-3164
G	 A = 15 B = 23 C = 30 D = 23.9	A = 19.1 B = 30 C = 35.1 D = 23.8	A = 19.1 B = 30 C = 35.1 D = 23.8	A = 19.1 B = 30 C = 34.5 D = 28	A = 20 B = 32 C = 36 D = 37.5
	Form B	Form A			
L	 A = 15.6 B = 23 C = 23 D = 26.5 E = 457	A = 12.6 B = 30 C = 31.7 D = 26.6 E = 457	A = 12.6 B = 30 C = 31.7 D = 26.6 E = 457	A = 11.6 B = 31 C = 30 D = 31 E = 457	-
	Cable length E for standard version. Further versions on request.				
N	 A = 31.5 B = 23 D = 32.8	A = 33.7 B = 27 D = 35.9	A = 33.7 B = 30 D = 33.7	A = 33.7 B = 27 D = 40.1	A = 52 B = 35 D = 50.1
T	 -	A = 11 B = 27 D = 26.8	A = 11 B = 27 D = 26.8	-	A = 19 B = 30.2 D = 40.3
U	 -	A = 26.4 B = 27 D = 35.7	A = 26.4 B = 27 D = 35.7	A = 26.4 B = 27 D = 40	-

All dimensions are given in millimetres and are subject to tolerance. The coils are not shown to scale.

COIL – VALVE ASSIGNMENT

The following overview assigns the available HYDAC proportional valves to the sizes of the proportional coils. The detailed assignment of the common coil designs is listed in the respective valve brochure.

OVERVIEW SIZE COIL - VALVE TYPE

32-1329	40-1836	50-1836	50-2345	75-3164
PWK06	PDB08P	PDB08PY	P3DRE 6	P4WE 10
	PDB08PZ	PDB10PY	P3ME 6	
	PDB10P	PDB12PY	P3SRE 6	
	PDB10PZ	PDBM06020	P4WE 6	
	PDB10SPE	PDR08	P4WE 10	
	PDB10SPEL	PDR08PY	P4WE 16	
	PDB10SPEZ	PDR10830	P4WE 25	
	PDB12P	PSRPM20330	P4WE 32	
	PDB12PZ	PWK06020V	P4WER 6	
	PDB16P	PWK06020W	P4WER 10	
	PDB16PZ	PWK08120D	P4WER 16	
	PDBM06020	PWK10120V	P4WER 25	
	PDBM06020Z	PWK10J	P4WER 32	
	PDBM10120AP	PWK10120V	PSRPM20330	
	PDBM12120APZ	PWK10120W	PWK12120W	
	PDBM12121PE	PWK10121C	PWS10Z	
	PDBM12121PF	PWK10121WS	PWS12Z	
	PDBM12121PFZ	PWK12120W	PWS12ZR	
	PDBM16121PE	PWKM10120W	PWS16Z	
	PDR08	PWS08Z	PWS16ZR	
	PDR08P	PWS10Z		
	PDR08PZ	PWS10ZR		
	PDR08Z	PWSM06020W		
	PDR10P			
	PDR10PZ			
	PDR12P			
	PDR16P			
	PWK12120WP			
	VP-PDRP6			

NOTE

The information in this brochure relates to the operating conditions and fields of application described. For applications and operating conditions not described, please contact the relevant technical departments.

Subject to technical modifications.

Documents are only valid if they have been obtained via the website and are up-to-date.

HYDAC Fluidtechnik GmbH
 Justus-von-Liebig-Str.
66280 Sulzbach/Saar
Germany
 Phone: +49 6897 - 86 509 -0
 E-mail: valves@hydac.com
 Internet: www.hydac.com