J1

Features and Benefits

Maximum Power - Minimum Space
Perfectly layered wound coil packs more copper into smaller space. Perfect winding eliminates crossed wires and the potential for short-circuits. More copper windings ensure maximum solenoid force per current input.

Continuous High Temperature Operation
All HYDAC coils use high quality 'Class N' wire to ensure that coils can be continuously operated in extreme high temperatures and over-voltage without failure.

Resistance to Thermal Shock
HYDAC coils have passed what are commonly referred to as 'thermal shock dunk tests'. This involves heating the coil to an extreme temperature for a period of time, then immersing in very cold salt water. The cycle is repeated and coil operation checked for signs of degradation.

All Weather Resistant
Encapsulated and internally sealed, the rugged steel shell construction prevents ingress of water. HYDAC coils have passed numerous 'salt-spray tests'. No external sealing or waterproofing kits are needed.

IP Rated
HYDAC coils are rated from IP65 to IP69K. The quality of connector selected determines the IP rating. Deutsch DT04-2P achieves IP69K, while a DIN 43650 interface achieves IP65.

Physically Robust
Thick steel shell protects coil from physical damage. Zinc plating protects the shell from corrosion.

Coils are DC wound
All HYDAC coils are DC wound. AC designated coils from size 8, 10, 12, and 16 valves are internally full wave rectified. This results in a more reliable coil since inrush cycles are eliminated. There is no 'buzz' or 'hum' normally associated with 'true AC' coils. AC coils can operate on 50-60Hz supply. DC and AC coils are fully interchangeable. Coils for size 6 cartridges do not have built-in rectifiers and require external rectificatons of the AC signals.

Suppression Diodes
DC coils are available with an internal, bi-directional, transient voltage suppression diode. This can help protect the end users control circuit from induction voltages. Using a bi-directional diode means the coil is not polarity sensitive.

Symmetric Coil Construction
HYDAC coils can be installed face up or face down on the valve with no reduction in performance.

Note: UL 583 listed coils available. Consult factory.

Solenoid Coils - Size 8, 10, 12 & 16 Cartridges Valves

Coil Materials

Class N high temperature magnetwire (200°C). Zinc plated steel shell. Polyamide encapsulation, black.

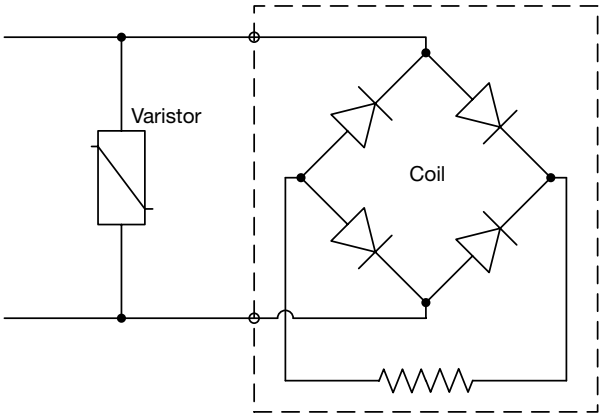
Coil Information

- Special voltages and terminations are available for OEM applications; consult factory
- AC service coils are internally rectified and can be used in 50 Hz or 60 Hz power lines. The rectifiers used in these coils may require protection from high voltage surges in some electrical circuits containing highly inductive or capacitive components. These include certain types of motors, solenoids, relays and transformers.
- AC voltage transient surges over 600 volts may require a voltage surge suppressor (MOV varistor) to be placed in parallel to the coil, as shown on the surge suppressor circuit diagram below.

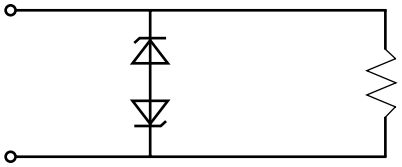
Voltage	Suggested Varistor Part No.*	Joule Rating
115	150LA10A	45
230	250LA40A	130

*Available from electronics supplier

AC Voltage Diode Bridge Rectification Circuit Diagram

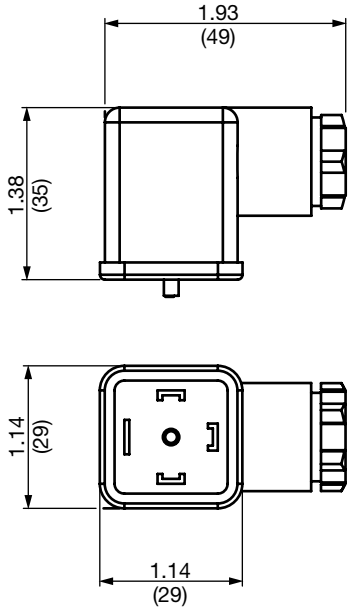


DC Coils Transient Voltage Supressor Bi-directional Diode (optional) Diagram



- Bi-directional suppression diode protects coil winding from induction voltages

Coil Accessories: DIN Plug



EN 175301-803-A
Part Number: 00394287

All measurements in inches (mm).

Quick Reference

Coils suitable for Valve Models

Coils Type 40-1836 and 50-1836

Poppet Valves

COIL 40-1836	COIL 50-1836
WS08Z-01	WS10W-01
WS08Z-01J	
WS08Z-30	
WS08ZR-01	
WS08ZR-01J	
WS08ZR-30	
WS081Z-01	
WS081ZR-01	
WS10Z-01	
WS10ZR-01	
WS12Z-01	
WS12ZR-01	
WS16Z-01	
WS16ZR-01	
WS08Y-01	
WS08Y-30	
WS08YR-01	
WS08YR-30	
WS081Y-01	
WS081YR-01	
WS10Y-01	
WS10YR-01	
WS12Y-01	
WS12YR-01	
WS16Y-01	
WS16YR-01	
WS08W-01	
WS08W-30	
WS08D-51	
WS08V-01	

Spool Valves

COIL 40-1836	COIL 50-1836
WK08W-01	WK10W-01
WK081W-01	WK10V-01
WK08V-01	WK10L-01
WK081V-01	WK10C-01
WK07L-01	WK10D-01
WK08L-01	WK10Y-01
WK08C-01	WK10X-01
WK08D-01	WK10A-01
WK08Y-01	WK10Z-01
WK08X-01	WK10K-01
WK08A-01	WK10N-01
WK08Z-01	WK10P-01
WK08K-01	WK10R-01
WK08P-01	
WK08R-01	
WK08E-01	
WK08J-01	
WK10E-01	
WK10G-01	
WK10H-01	
WK10J-01	
WK10T-01	

Coils Type P40-1836 and P50-1836

Proportional Valves

COIL P40-1836	COIL P50-1836
PDR08-01	PDR08-11
PDR08P-01	PDR08-20
PDR10P-01	PDR08-50
PDB08P-01	
PDB10P-01	
PDB12P-01	
PDB16P-01	

Type 40-1836 (40 mm height) Rating & Specifications

Solenoid Coils Ratings

Duty rating	Continuous from 85% to 115% of nominal voltage
Max Coil Temperature	320°F (160°C)
Power Rating	18 watts @ nominal voltage
Encapsulent	Polyamide, black
Magnet Wire	U.L. class H, 353°F (180°C)
Coil Shell	Steel, Zinc plated
Transient Voltage Suppressor Diode for DC coils	Bi-directional, maximum clamping voltage - 68 volts

Solenoid Coils Winding Specifications

Nominal Voltage (V)	Resistance at 20°C (Ω)	Nominal Current (A)
10 VDC	5.4	1.85
12 VDC	8	1.5
24 VDC	30	0.8
36 VDC	65	0.55
48 VDC	116	0.41
110 VAC	607	0.18
24 VAC	24.8	0.85
115 VAC	500	0.2
230 VAC	2137	0.096

Connectors & Part Numbers (Commonly used)

Voltage	Connector Type					
	DIN G	Dual Spade S	Leadwires L	Weather Pack W	Deutsch N	Amp Jr Timer T
10VDC	3003128	3013042	3003135	3003131	3012601	3008291
12VDC	3000489	3000973*	3002244*	3003124*	3012600*	3008275*
24VDC	3000249	3000247*	3003119*	3003088*	3012599*	3008279*
36VDC	3003151	3003043*	3003140*	3003144*	3012602*	3008283*
48VDC	3003155	3013044*	3003149*	3003147*	3012603*	3008287*
110VDC	3003142					
24VAC	3003122					
115VAC	3003156					
230VAC	3002594					

*Diode version available, contact your HYDAC representative.
For other voltages and connectors contact your HYDAC representative.

Type 50-1836 (50 mm height) Rating & Specifications

Solenoid Coils Ratings

Duty rating	Continuous from 85% to 115% of nominal voltage
Max Coil Temperature	320°F (160°C)
Power Rating	27 watts @ nominal voltage
Encapsulent	Polyamide, black
Magnet Wire	U.L. class H, 353°F (180°C)
Coil Shell	Steel, Zinc plated
Transient Voltage Suppressor Diode for DC coils	Bi-directional, maximum clamping voltage - 68 volts

Solenoid Coils Winding Specifications

Nominal Voltage (V)	Resistance at 20°C (Ω)	Nominal Current (A)
10 VDC	3.7	2.7
12 VDC	5.4	2.22
24 VDC	21.2	1.13
36 VDC	48	0.75
48 VDC	86	0.56
110 VAC	440	0.25
24 VAC	18	1.33
115 VAC	363	0.3
230 VAC	1680	0.14

Connectors & Part Numbers (Commonly used)

Voltage	Connector Type					
	DIN G	Dual Spade S	Leadwires L	Weather Pack W	Deutsch N	Amp Jr Timer T
10VDC	3091543	3091594	3003135	3091646	3091664*	3091640
12VDC	915151	3002163*	3091633	3013032*	3091665*	3001033*
24VDC	915142	3002151*	3003119	3091658*	3091667*	3001503*
36VDC	3091590	3091629	3003140	3091661	3091669*	3091642
48VDC	3091591	3091631	3003149	3091662	3091670*	3001507
110VDC	3091592					
24VDC	3091593					
115VAC	3019735					
230VAC	3019736					

*Diode version available, contact your HYDAC representative.
For other voltages and connectors contact your HYDAC representative.

Type P40-1836 & P50-1836 Rating & Specifications

Proportional Coils Ratings

Duty rating	Continuous
Max Coil Temperature	320°F (160°C)
Encapsulent	Polyamide, black
Magnet Wire	U.L. class H, 353°F (180°C)
Coil Shell	Steel, Zinc plated

Proportional Coils Winding Specifications

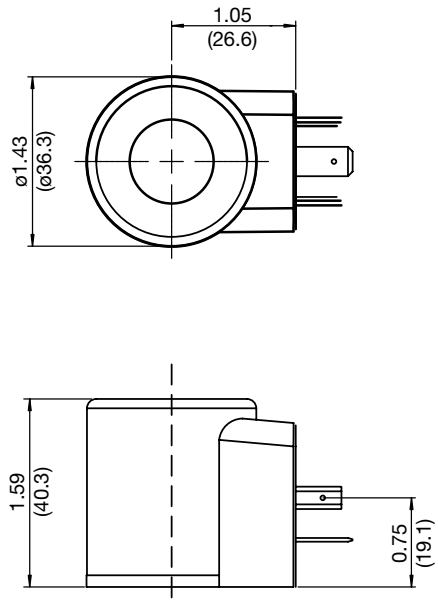
Nominal Voltage (V)	Resistance at 20°C (Ω)	Nominal Current (A)
12 VDC Type 40	2.20	2.1
24 VDC Type 40	8.80	1.05
12 VDC Type 50	4.10	1.75
24 VDC Type 50	18.00	0.85

Connectors & Part Numbers (Commonly used)

Voltage/Type	Connector Type			
	DIN G	Leadwires L	Deutsch N	Amp Jr Timer T
12VDC TYPE 40	3109230	3109947	3110056	3162388
24VDC TYPE 40	3109229	3110048	3110057	3162390
12VDC TYPE 50	3179976	3179980	3179990	3120939
24VDC TYPE 50	3179953	3179985	3179991	3120938

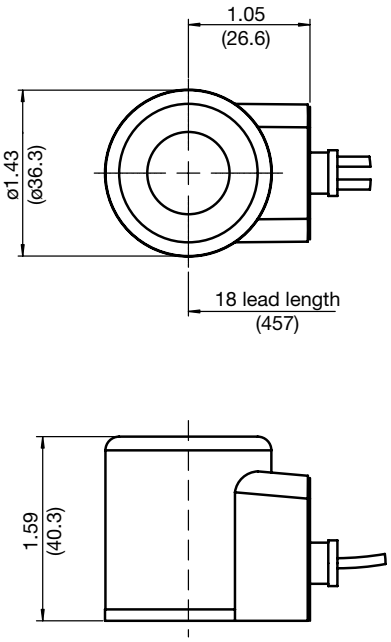
Coil Type 40 Dimensions

AG-DG-40-1836
PG-40-1836



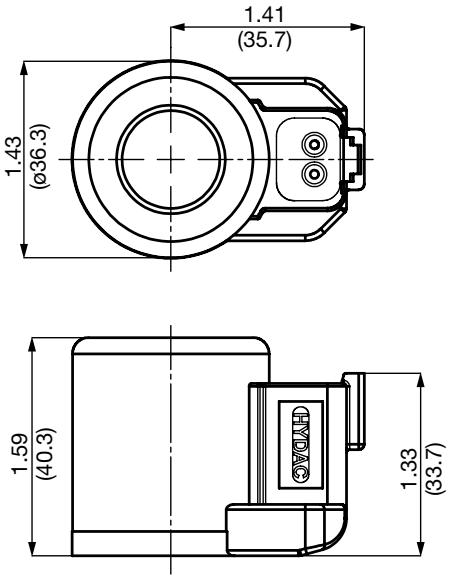
Din 175301

DL-40-1836
PL-40-1836



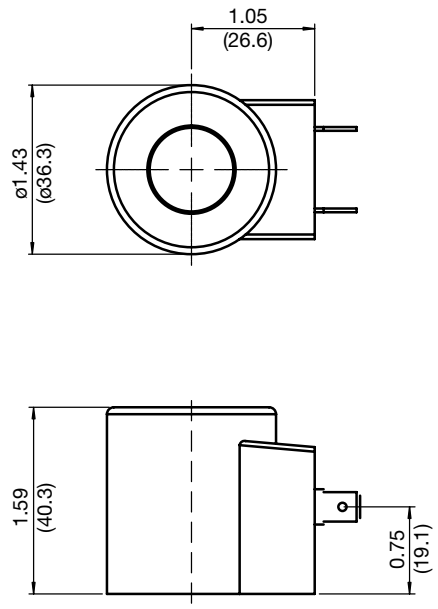
Dual Leads

DN-40-1836
PN-40-1836



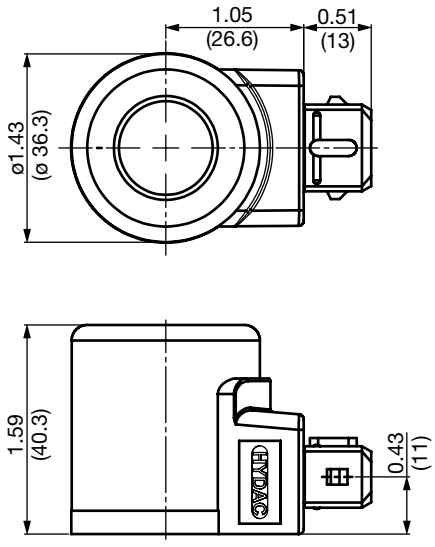
Deutsch™ DT04-2p

DS-40-1836



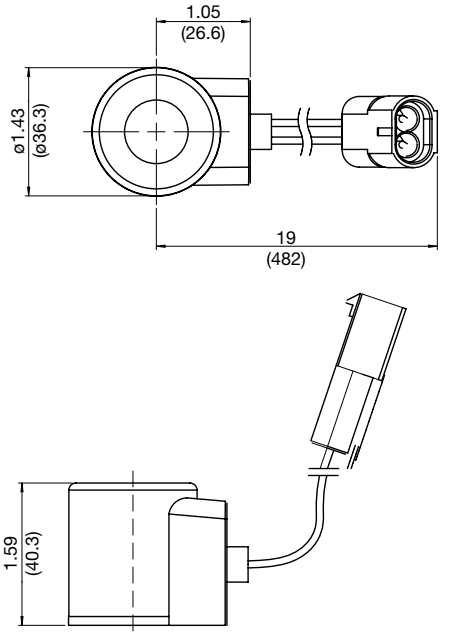
Dual 1/4” Spades

DT-40-1836
PT-40-1836



Amp Jr. Timer™

DW-40-1836

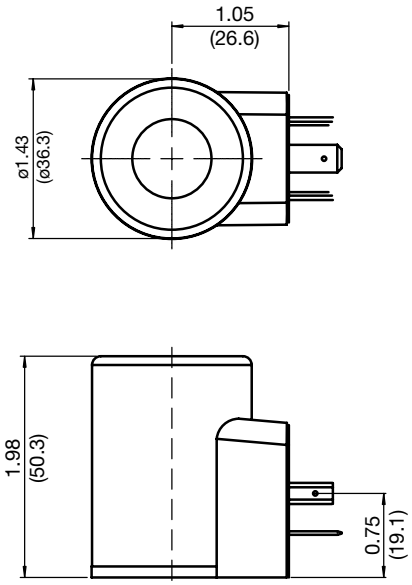


WeatherPak™ 12010973

All measurements in inches (mm).

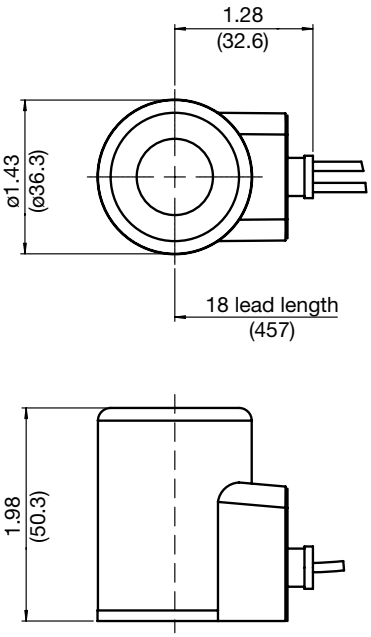
Coil Type 50 Dimensions

AG-DG-50-1836
PG-50-1836



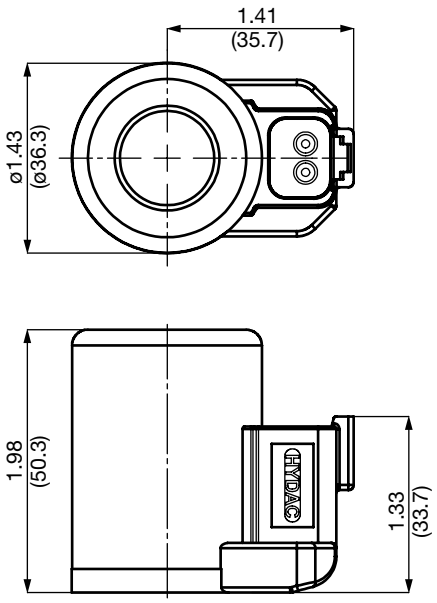
Din 175301

DL-50-1836
PL-50-1836



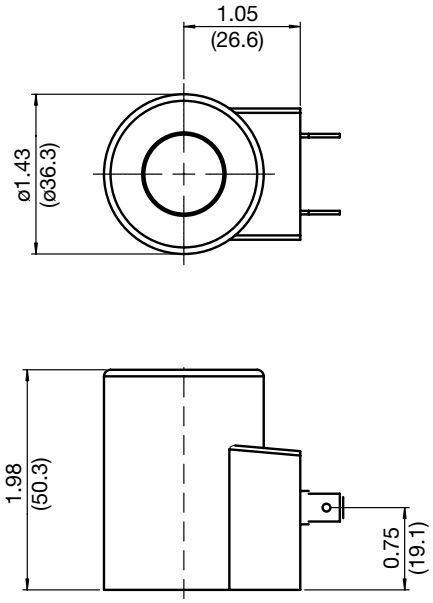
Dual Leads

DN-50-1836
PN-50-1836



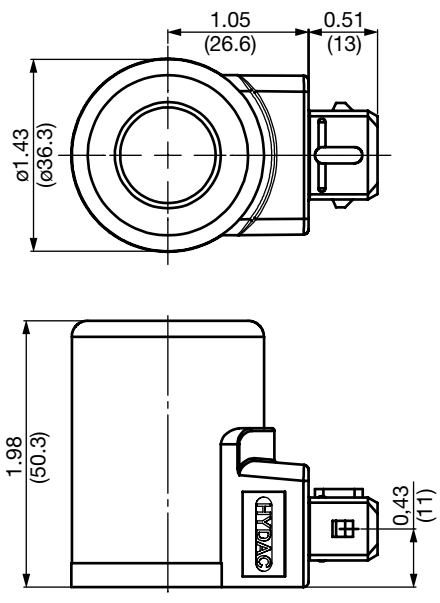
Deutsch™ DT04-2p

DS-50-1836



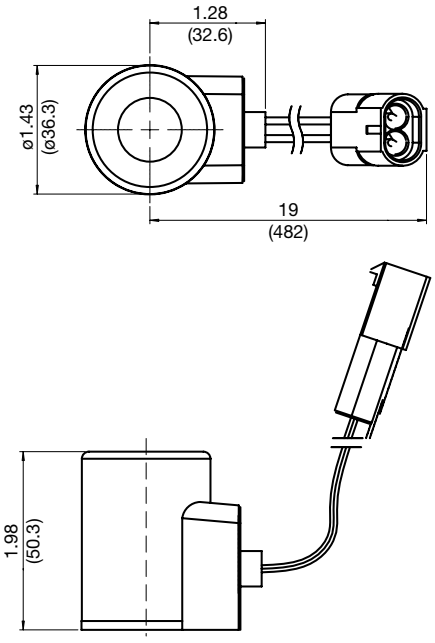
Dual 1/4" Spades

DT-50-1836
PT-50-1836



Amp Jr. Timer™

DW-50-1836



WeatherPak™ 12010973

All measurements in inches (mm).

Solenoid Coils - Size 6 Cartridges Valves

Type 32-1329 (32 mm height) Rating & Specifications

Solenoid Coils Ratings

Duty rating	Continuous from 85% to 115% of nominal voltage
Max Coil Temperature	320°F (160°C)
Power Rating	12 Watts @ Nominal Voltage
Encapsulant	Thermoplastic, Black
Magnet Wire	U.L. Class N, 392°F (200°C)
Coil Shell	Steel, Zinc plated
Transient Voltage Suppressor Diode for DC coils*	Bi-directional, maximum clamping voltage- 68 volts

Solenoid Coils Winding Specifications

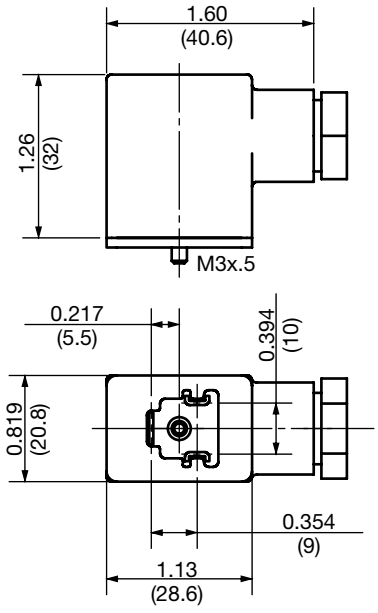
Nominal Voltage (V)	Resistance at 20°C (Ω)	Nominal Current (A)
12 VDC	12.2	0.98
24 VDC	48.7	0.49
105 VDC	980	0.11
205 VDC	3700	0.06

Connectors & Part Numbers (Commonly used)

Nominal Voltage (V)	Connector Type			
	DIN DG	Leadwires DL	Weather-Pack DW	Deutsch DN
12 VDC	02610160*	02610151*	02610287*	02610149*
24 VDC	02610161*	02610162*	02610288*	02610150*
105 VDC	02610156	Not Available	Not Available	Not Available
205 VDC	02610159	Not Available	Not Available	Not Available
120 VAC	Coil 02610156 & Plug 02600582			
230 VAC	Coil 02610159 & Plug 02600582			

*Diode version available, contact your HYDAC representative.
For other voltages and connectors contact your HYDAC representative
All coil for DC coils; for AC voltage use rectifier plugs.
Note: UL 583 listed coils available. Consult factory.

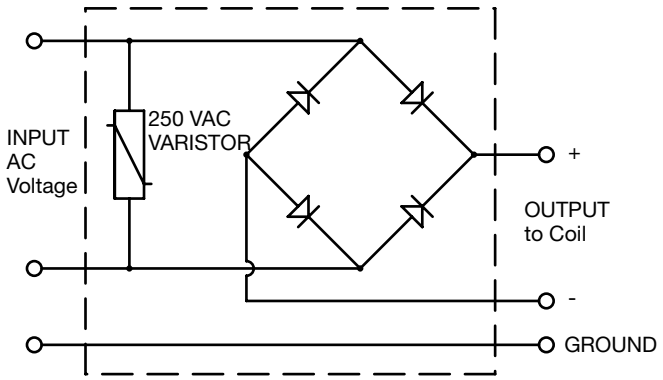
Coil Accessories: DIN Plugs



Type: EN 175301-803-B
Part Number: 02600570 - without diode bridge; use with DC Coils
Part Number: 02600582 - with diode bridge; use for applying AC input to DC coils

All measurements in inches (mm).

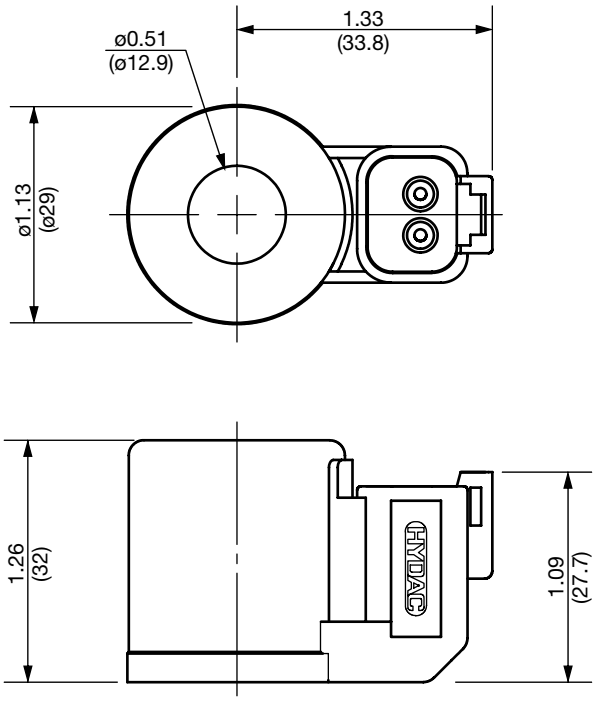
Circuit Diagram: Rectifier Plug



Part Number: 02600582

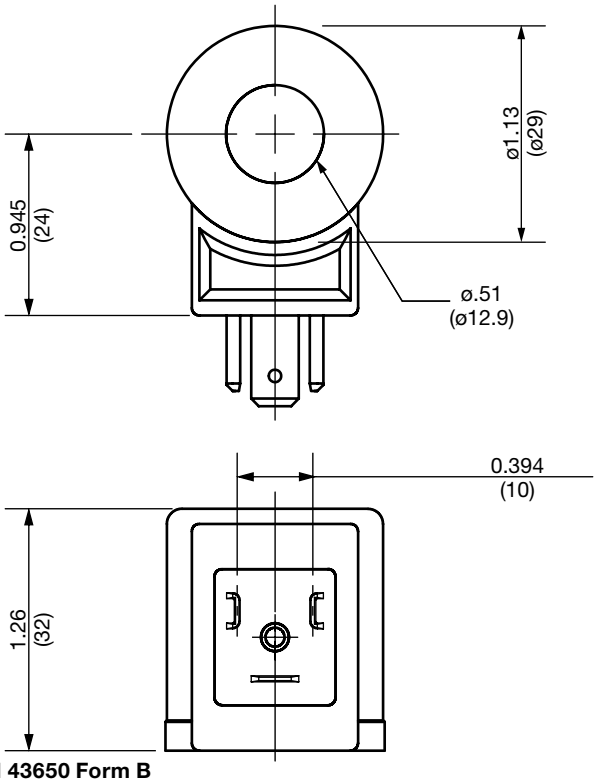
Coil Type 32 Dimensions

DN-32-1329



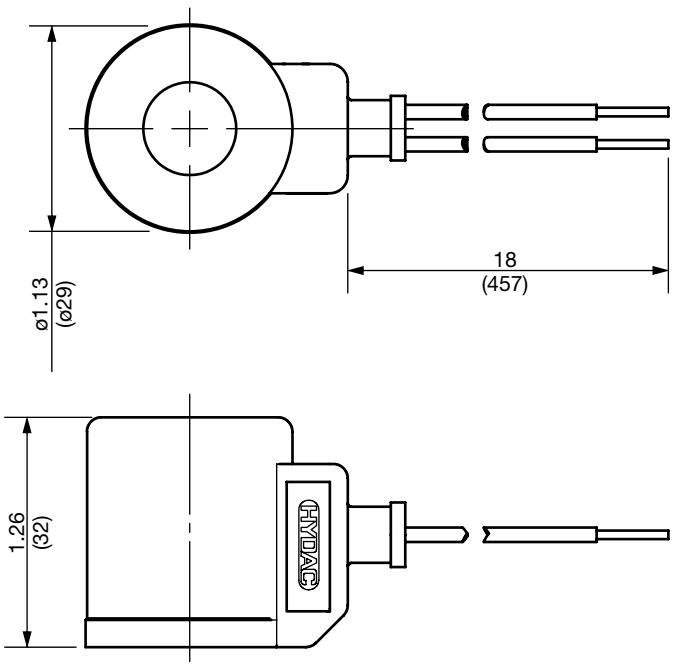
Deutsch™ DT04-2p

DG-32-1329



DIN 43650 Form B

DL-32-1329



Dual Leads

All measurements in inches (mm).