



## DFE10

### Solenoid control monoblock diverter valves

- 3 - 6 ways configuration

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm<sup>2</sup>/s (46 cSt) viscosity at 40°C - (104°F) temperature.

WORKING CONDITIONS		
N. of available ways		3 - 6
Max. flow rating		90 l/min (23.7 US gpm)
Max. pressure	without drain	200 bar (2900 psi)
	with drain	315 bar (4600 psi)
Available supply voltage	VDC	see reference page 94
Nominal power		60 W
Internal leakage A(B)⇒T	$\Delta p = 100 \text{ bar (1450 psi)}$	10 cm <sup>3</sup> /min (0.61 in <sup>3</sup> /min)
Fluid		Mineral based oil
Fluid temperature	with NBR (BUNA-N) seals	from -20°C to 80°C (from -4°F to 176°F)
	with FPM (VITON) seals	from -20°C to 100°C (from -4°F to 212°F)
Viscosity	operating range	from 15 to 75 mm <sup>2</sup> /s (from 15 to 75 cSt)
	min.	12 mm <sup>2</sup> /s (12 cSt)
	max.	400 mm <sup>2</sup> /s (400 cSt)
Max. level of contamination		20/18/15 - ISO 4406 - NAS 1638 - class 9
Ambient temperature for working conditions		from -20°C to 50°C (from -4°F to 122°F)

NOTE - For different working conditions please contact Sales Dept.

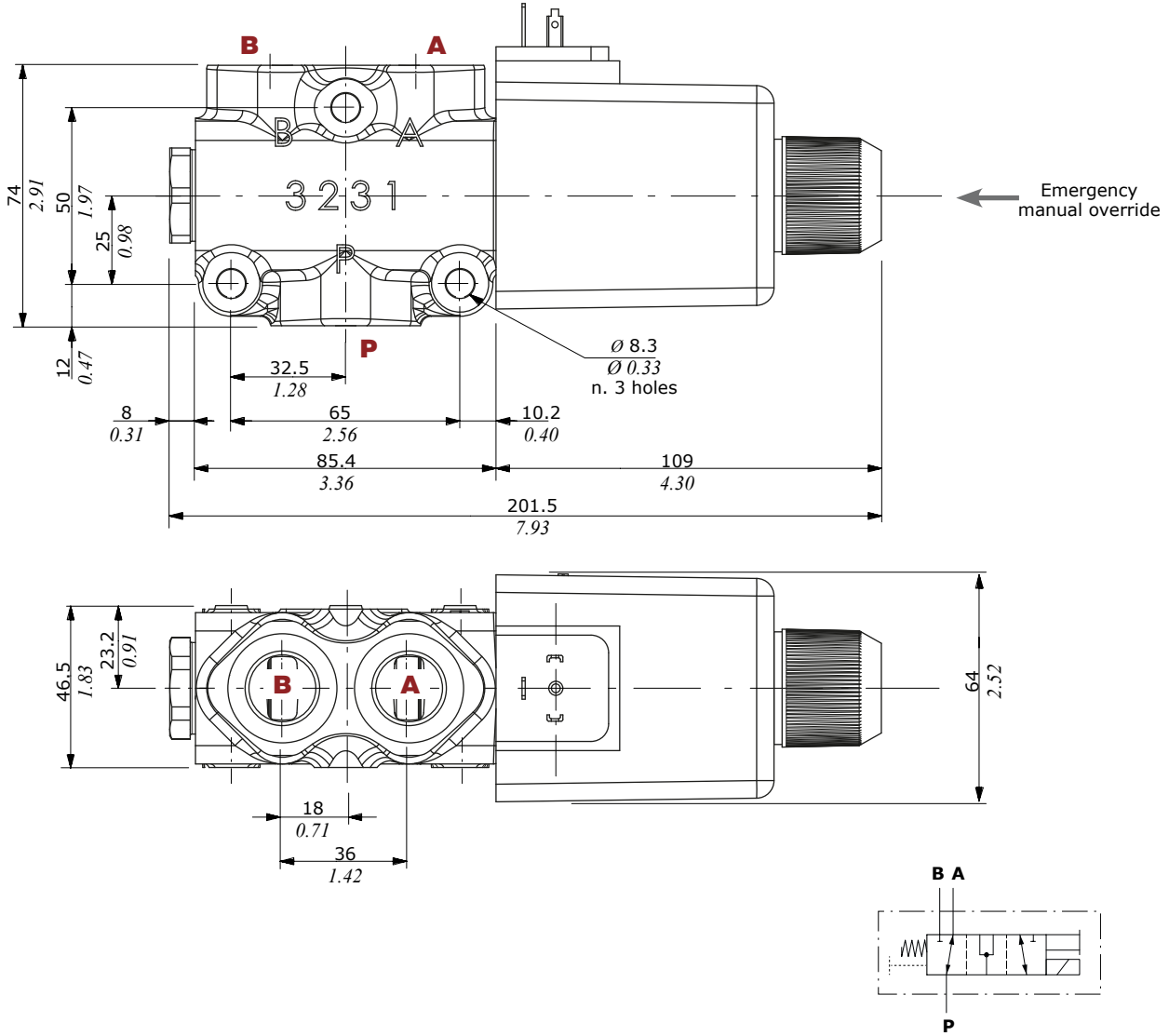
### Available threads

PORTS THREAD		
ALL PORTS	BSP	UN-UNF
<b>DFE10</b>	G 1/2	7/8-14 (SAE 10)
PILOT PORTS		
<b>L</b>	G 1/4	9/16-18 (SAE 6)

## Dimensional data - hydraulic circuit - performance data

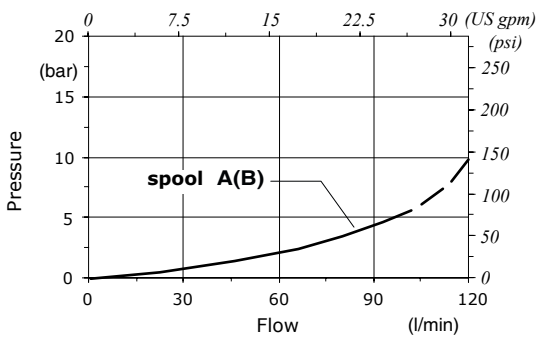
### 3 ways

It's possible to obtain 2 ways diverter valve plugging port



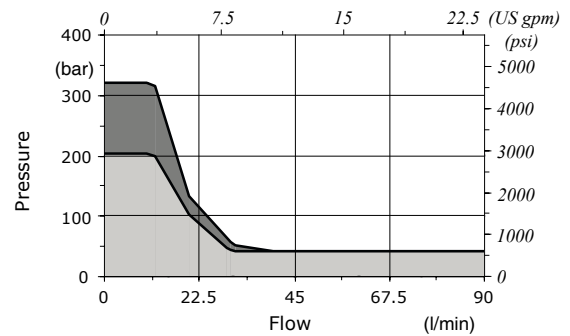
Pressure drop versus flow

P → A(B)



Minimum dynamic conditions

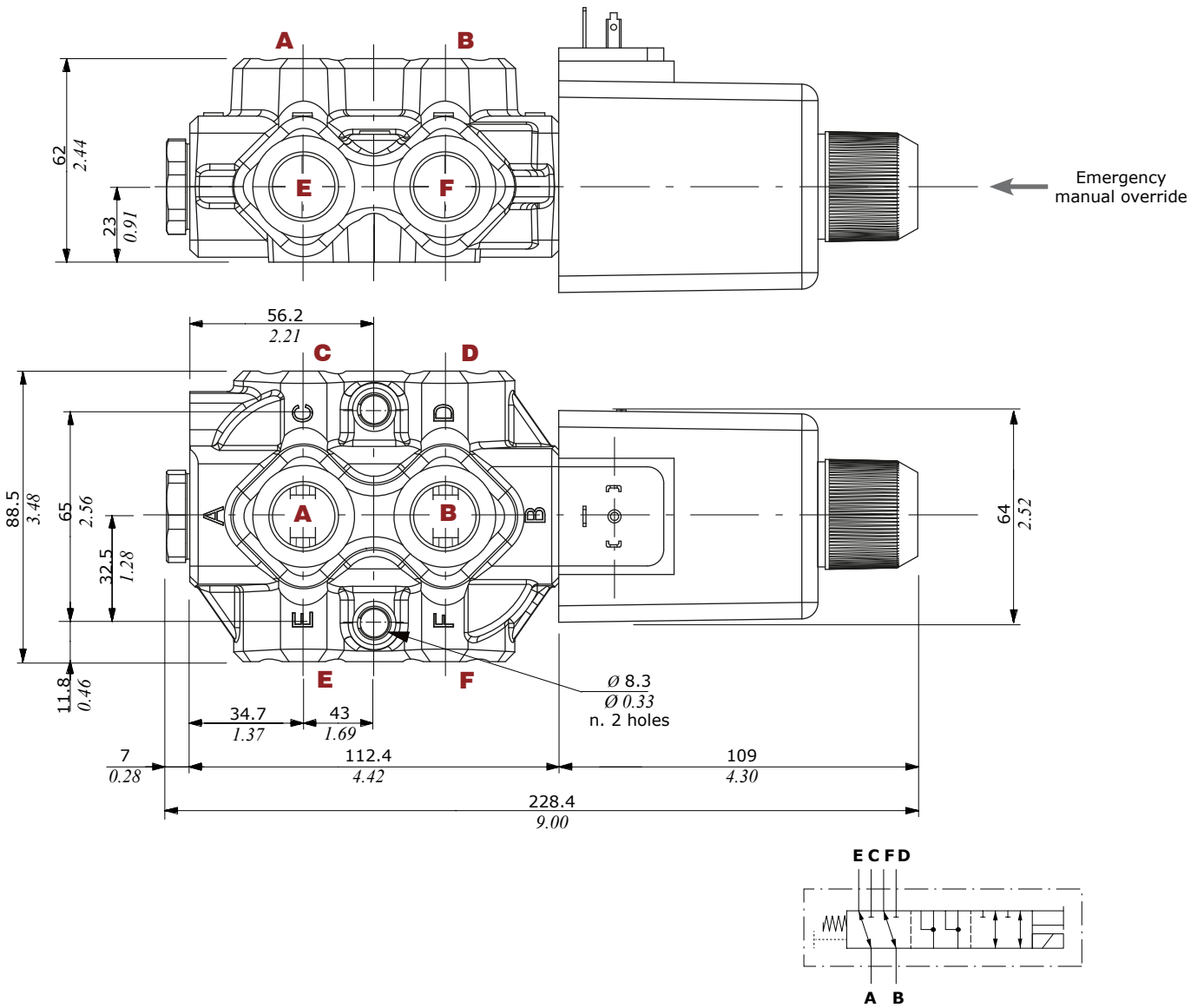
(Supply = Vn-10%, coil at 70 °C - 158 °F)



With drain  
 Without drain

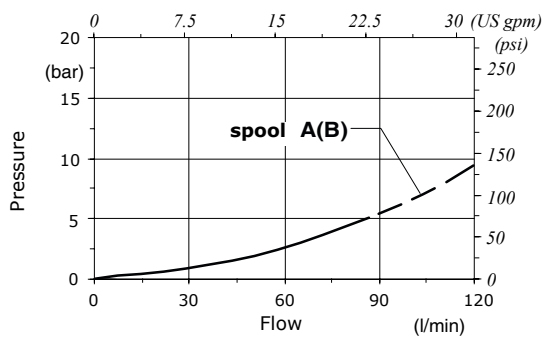
**Dimensional data - hydraulic circuit - performance data**

**6 ways**



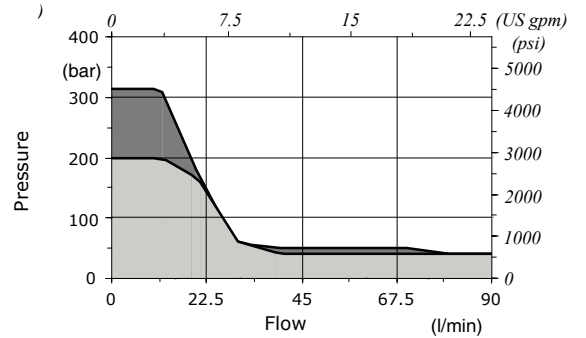
**Pressure drop versus flow**

**A → C(E)**



**Minimum dynamic conditions**

(Supply = Vn-10%, coil at 70 °C - 158 °F)



## Part ordering codes

Example:

For description composition  
see the text below

**DFE10/3    A    18    ES    -    W    2 0 2 - 12VDC    -    ...    -    (CVN)**

1    2    3    4    3    4    5    6

Painted with one layer of black Primer antirust

... **2 0** (300) **2 - 12VDC - ...**

**Coil**  
1 = without coil  
2 = with coil

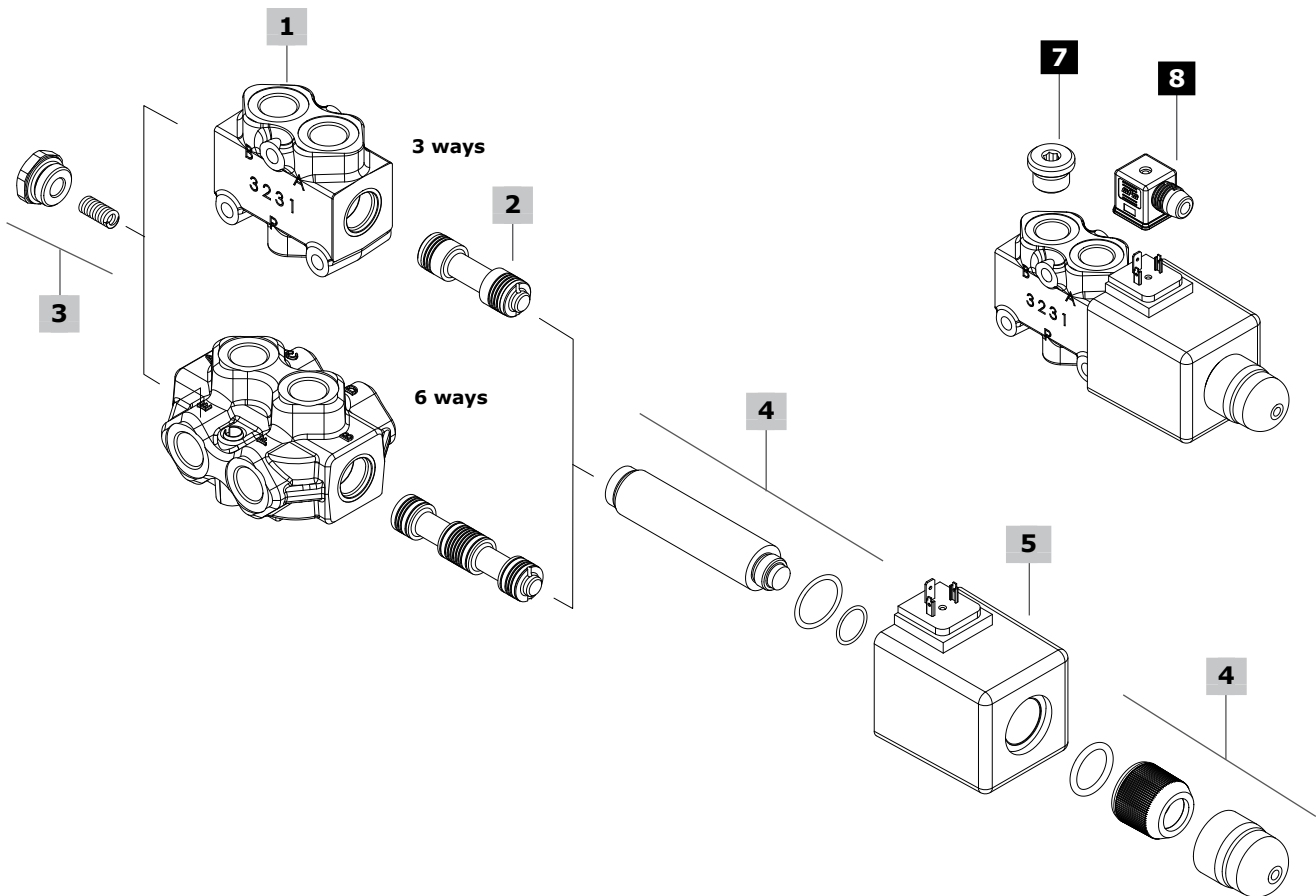
**Connection\***  
0 = ISO (Std)  
2 = AMP-JPT  
3 = Deutsch DT06  
4 = Deutsch DT04-2P Male  
5 = Deutsch DT04-4P Female  
6 = Metri-Pack Female  
7 = Metri-Pack Male  
8 = WeatherPack Male  
9 = WeatherPack Female

**Length cables**  
(only if it's present)  
Length is in mm

**Bellow**  
1 = without bellow  
2 = with bellow

**Coil voltage**

(\*) - For connector options see coils table on page 94



**1 Body kit\***

TYPE	CODE	DESCRIPTION
<b>DFE10/3</b>	3CO2241320	3 ways body kit
<b>DFE10/6</b>	3CO2242322	6 ways body kit

**2 Spools** page 92

TYPE	CODE	DESCRIPTION
<b>for DFE10/3:</b>		
<b>A</b>	3CAS110341	Flow in A in neutral. Ports connected in transit position
<b>B</b>	3CAS110441	Flow in A in neutral. Ports closed in transit position
<b>D</b>	3CAS110540	Closed ports in neutral and connected in transit position

**for DFE10/6:**

<b>A</b>	3CAS110641	Flow in E and F. C and D closed in pos. 1 Ports connected in transit position
<b>B</b>	3CAS110741	Flow in E and F. C and D closed in pos. 1 Ports closed in transit position
<b>H</b>	3CAS110841	D<->C in pos. 1, F<->E in pos. 2 Ports closed in transit position

**3 Positioner kit** page 93

TYPE	CODE	DESCRIPTION
<b>18...W</b>	5TAP002	Spring return in pos. 1
<b>18...Y</b>	5GIU004*	Spring return in pos. 1, with G1/4 drain port

**4 Solenoid kit** page 93

TYPE	CODE	DESCRIPTION
<b>ES</b>	5SOL516000A	Tube assembly with protective bellow
<b>ES</b>	5SOL516000B	Tube assembly without protective bellow
-	4ACC516	Optional tube assembly protective bellow

**5 Coil**

For list of available coils see pages 94

**6 Body threading**

Specify threading always when it is different from **BSP** standard

**7 Port plugs\***

It's possible to obtain 2 ways diverter valve plugging port of DFE10/3

CODE	DESCRIPTION
3XTAP727180	G1/2 plug

**8 Accessories**

For list of available connectors see pages 94

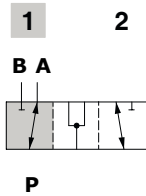
(\*) - Codes are referred to **BSP** thread

Spool circuits

**3 ways**

**Type A**

Ports connected in transit position



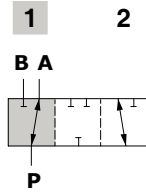
P

**Spool stroke**

Position 2: - 4.6 mm (- 0.18 in)

**Type B**

Ports closed in transit position



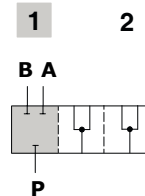
P

**Spool stroke**

Position 2: - 4.6 mm (- 0.18 in)

**Type D**

Closed ports in neutral and connected in transit position



P

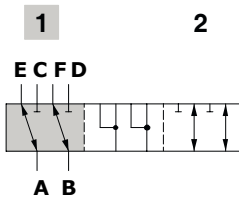
**Spool stroke**

Position 2: - 4.6 mm (- 0.18 in)

**6 ways**

**Type A**

Flow in E and F. C and D closed in pos. 1  
Ports connected in transit position



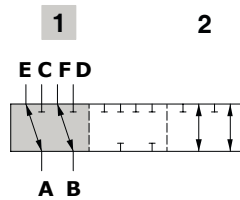
A B

**Spool stroke**

Position 2: - 4.6 mm (- 0.18 in)

**Type B**

Flow in E and F. C and D closed in pos. 1  
Ports closed in transit position



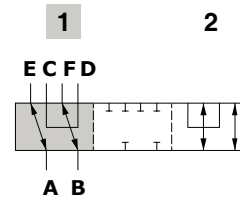
A B

**Spool stroke**

Position 2: - 4.6 mm (- 0.18 in)

**Type H**

D<->C in pos. 1, F<->E in pos. 2  
Ports closed in transit position



A B

**Spool stroke**

Position 2: - 4.6 mm (- 0.18 in)

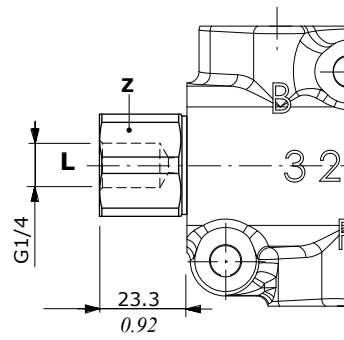
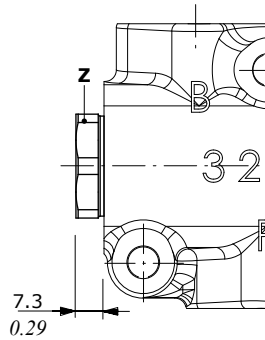
**Positioner kit**

**With spring return in position 1**

**Type 18W**  
With plug

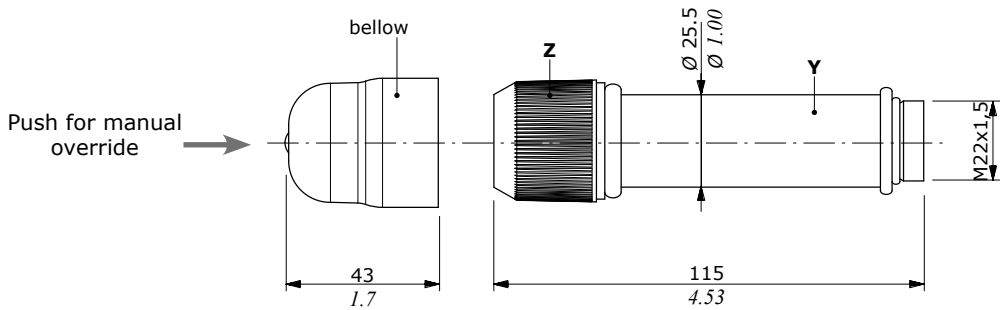
**Type 18Y**  
With G1/4 drain port

**Wrenches and tightening torque**  
Z = wrench 27 - 42 Nm (31 lbf)



**Solenoid kit**

**ES tube assembly kit**



**Wrenches and tightening torque**  
Y = wrench 22 - 24 Nm (17.7 lbf)  
Z = 24 Nm (17.7 lbf)

## Coils and accessories

Type	Voltage	Ordering codes					Flying leads without connector
		ISO4400	Deutsch DT	AMP JPT	Packard Weatherpack	Packard Metri-pack	
D16	12 VDC	4SOL516012A	4SOL516412A <sup>(2)</sup>	-	-	-	-
	24 VDC	4SOL516024A	4SOL516424A <sup>(2)</sup>	-	-	-	-
	48 VDC	4SOL516048A	-	-	-	-	-
	94 VDC	4SOL516094A	-	-	-	-	-
	110 VDC	4SOL516110A	-	-	-	-	-
	192 VDC	4SOL516192A	-	-	-	-	-
<b>Mating connectors</b>		4CN1009995	5CON140031	-	-	-	-

Notes: <sup>(1)</sup> supply with AC and use only with rectifier connector - <sup>(2)</sup> with flying leads - <sup>(3)</sup> with bidirectional diode - <sup>(4)</sup> with unidirectional diode <sup>(5)</sup> integrated perpendicular type - <sup>(6)</sup> integrated parallel type

### Features

Nominal voltage tolerance:  $\pm 10\%$

Nominal power.....: 60 W

12/24/48/94/110/192 VDC

Nominal current.....: 5 A @ 12 VDC

: 2.5 A @ 24 VDC

: 1.25 A @ 48 VDC

: 0.64 A @ 94 VDC

: 0.55 A @ 110 VDC

: 0.31 A @ 192 VDC

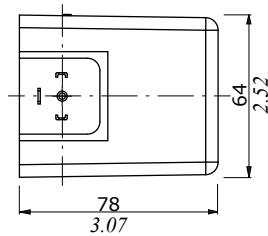
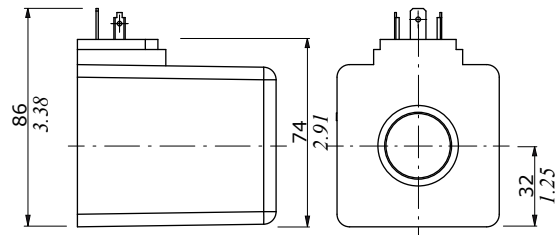
Insulation.....: Class H (180°C - 356 °F)

Weather protection.....: IP65 - ISO4400

: IP69K - Deutsch DT

Insertion.....: 100%

### ISO4400 connector



### Flying leads with DEUTSCH DT04 connector

