



DFE20

Solenoid control monoblock diverter valves

- 3 - 6 ways configuration

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm²/s (46 cSt) viscosity at 40°C - (104°F) temperature.

WORKING CONDITIONS

N. of available ways		3 - 6
Max. flow rating		140 l/min (36.9 US gpm)
Max. pressure	without drain	200 bar (2900 psi)
	with drain	315 bar (4600 psi)
Available supply voltage	VDC	see reference page 102
Nominal power		60 W
Internal leakage A(B)⇒T	Δp = 100 bar (1450 psi)	15 cm ³ /min (0.91 in ³ /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 ² /s (from 15 to 75 cSt)
	min.	12 mm ² /s (12 cSt)
	max.	400 mm ² /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.

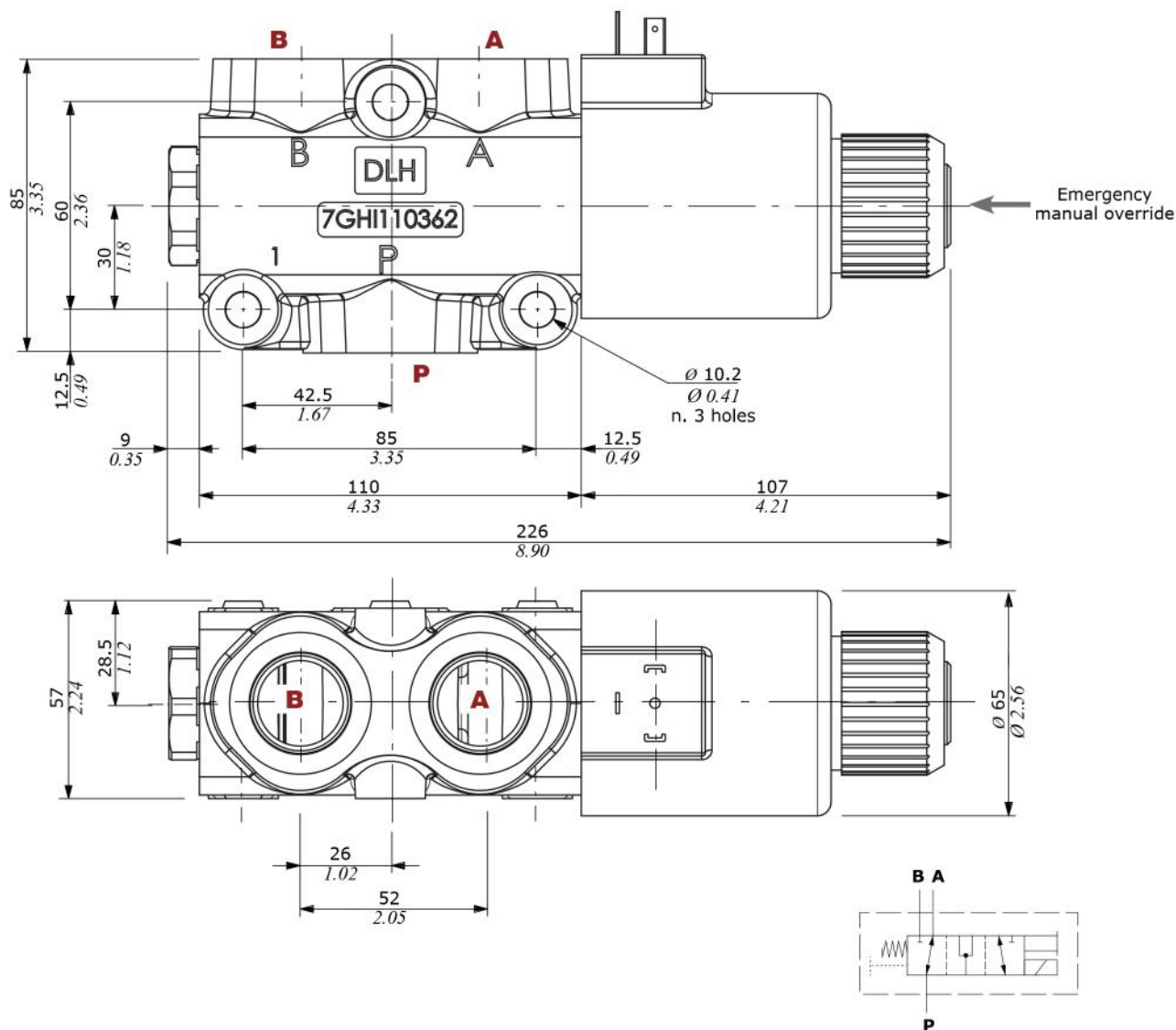
Available threads

PORTS THREAD		
ALL PORTS	BSP	UN-UNF
DFE20	G 3/4	1" 1/16-12 (SAE 12)
PILOT PORTS		
L	G 1/4	9/16-18 (SAE 6)

Dimensional data - hydraulic circuit - performance data

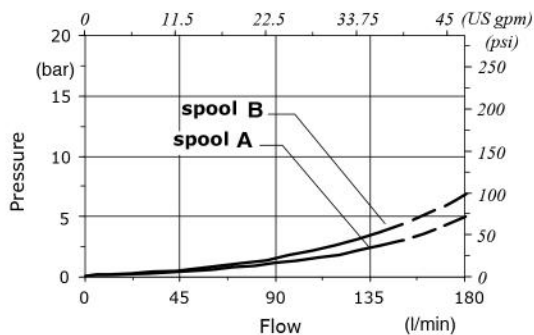
3 ways

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



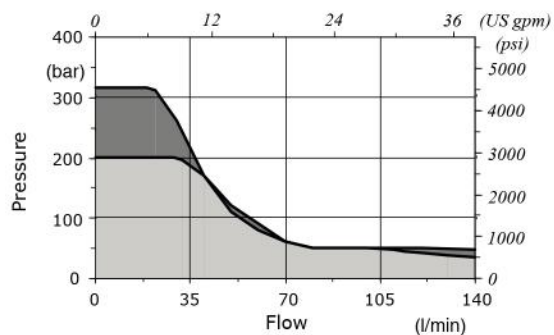
Pressure drop versus flow

P → A(B)



Minimum dynamic conditions

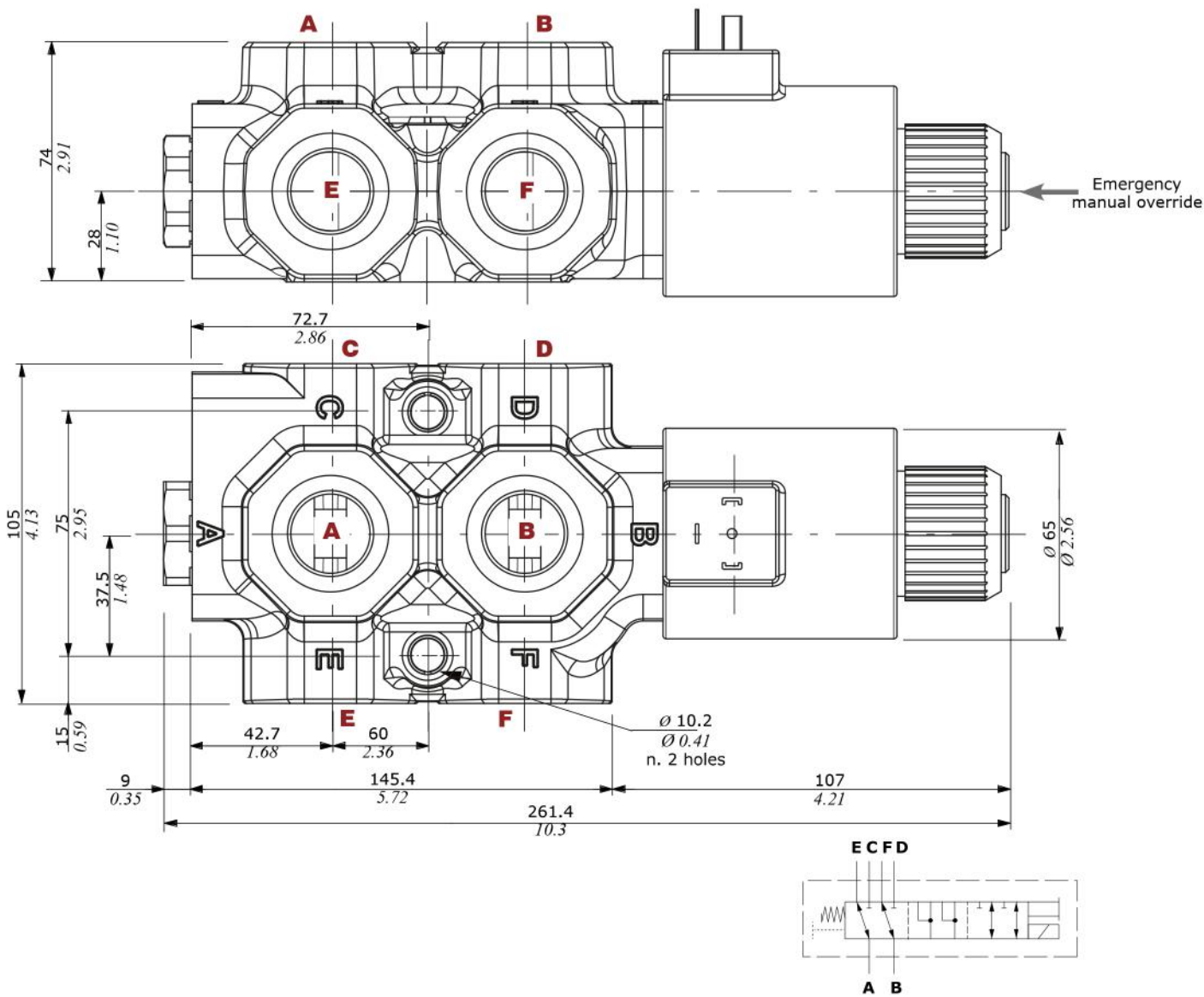
(Supply = Vn-10%, coil at 70 °C - 158 °F)



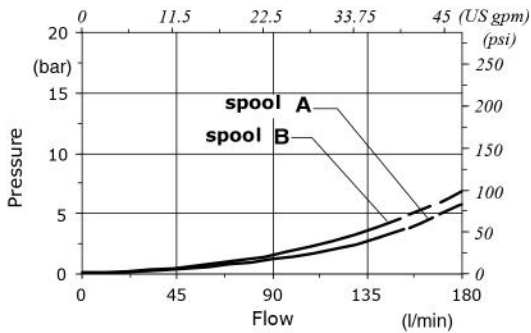
With drain
Without drain

Dimensional data - hydraulic circuit - performance data

6 ways

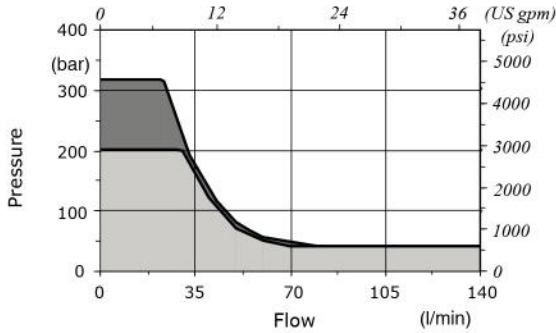


Pressure drop versus flow



Minimum dynamic conditions

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



With drain
Without drain

Part ordering codes

Example:

For description composition see the text below

DFE20/3 A 18 ES - W 2 0 0 - 12VDC - ... - (CVN)

1 2 3 4 3 4 5 6

Painted with one layer of black Primer antirust

Coil
1 = without coil
2 = with coil

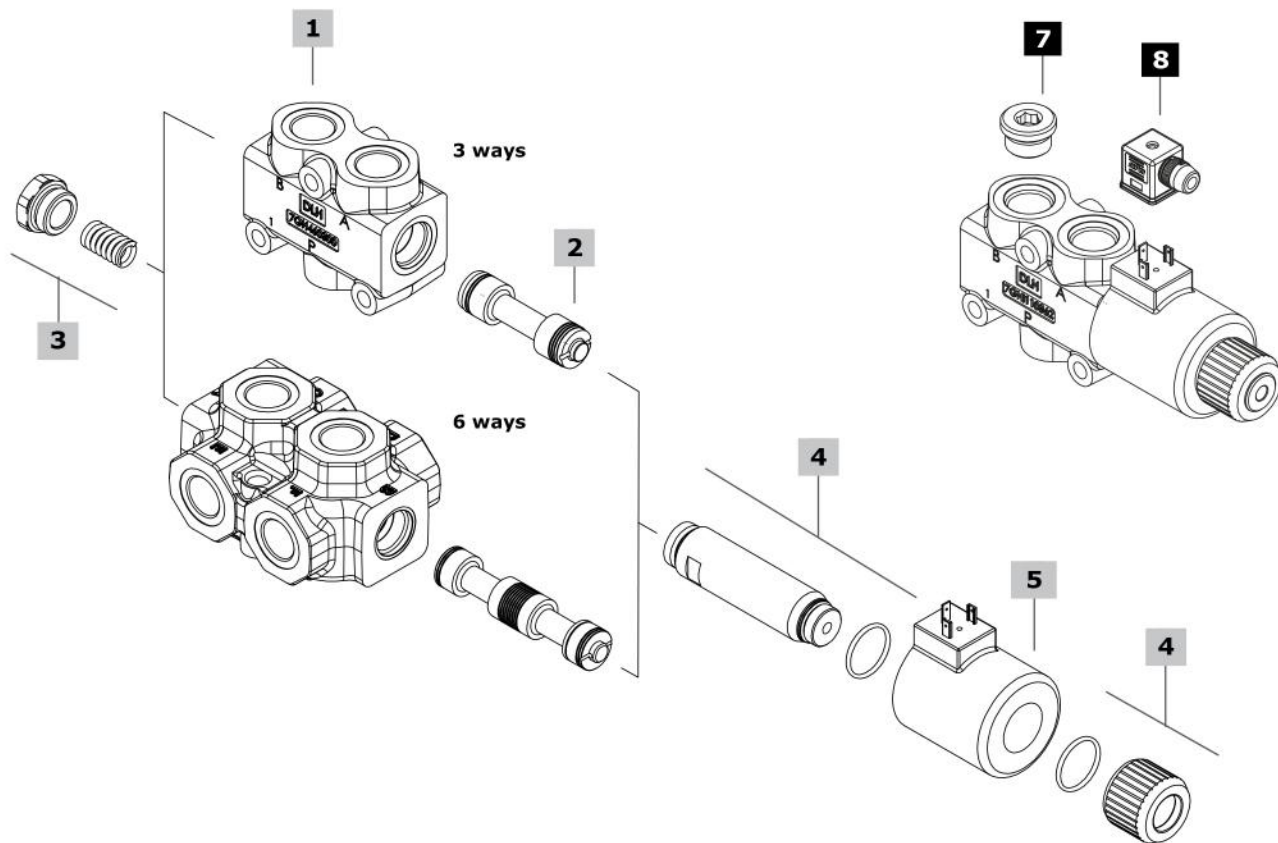
... 2 0 0 - 12VDC - ...

Coil voltage

Bellow
0 = bellow not available

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

(*) - For connector options see coils table on page 102



1 Body kit*

TYPE	CODE	DESCRIPTION
DFE20/3	3CO2261321	3 ways body kit
DFE20/6	3CO2263320	6 ways body kit

2 Spools**page 100**

TYPE	CODE	DESCRIPTION
for DFE20/3:		
A	3CAS120341	Flow in A in neutral. Ports connected in transit position
B	3CAS120441	Flow in A in neutral. Ports closed in transit position
for DFE20/6:		
A	3CAS120641	Flow in E and F. C and D closed in pos. 1 Ports connected in transit position
B	3CAS120741	Flow in E and F. C and D closed in pos. 1 Ports closed in transit position
H	3CAS120841	D↔C in pos. 1, F↔E in pos. 2 Ports closed in transit position

3 Positioner kit**page 101**

TYPE	CODE	DESCRIPTION
18...W	5TAP003	Spring return in pos. 1
18...Y	5GIU007*	Spring return in pos. 1, with G1/4 drain port

4 Solenoid kit**page 101**

TYPE	CODE	DESCRIPTION
ES	5SOL519003	Tube assembly without protective bellow

5 Coil

For list of available coils see pages 102

6 Body threadingSpecify threading always when it is different from **BSP** standard**7 Port plugs***

It's possible to obtain 2 ways diverter valve plugging port of DFE20/3	
CODE	DESCRIPTION
3XTAP732200	G3/4 plug

8 Accessories

For list of available connectors see pages 102

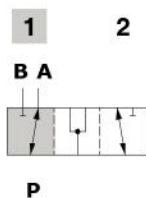
(*) - Codes are referred to **BSP** thread

Spool circuits

3 ways

Type A

Ports connected
in transit position



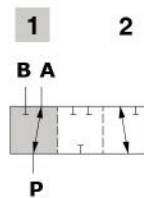
P

Spool stroke

Position 2: - 4.5 mm (- 0.18 in)

Type B

Ports closed
in transit position



P

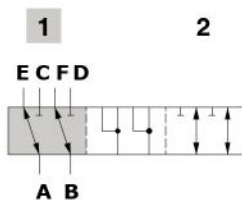
Spool stroke

Position 2: - 4.5 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

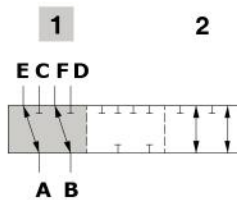


Spool stroke

Position 2: - 4.5 mm (- 0.18 in)

Type B

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

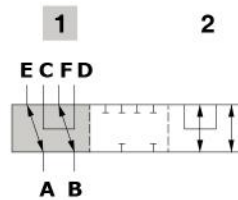


Spool stroke

Position 2: - 4.5 mm (- 0.18 in)

Type H

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



Spool stroke

Position 2: - 4.5 mm (- 0.18 in)

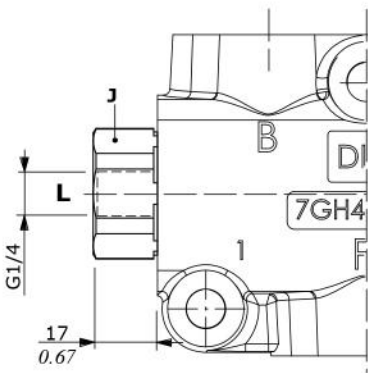
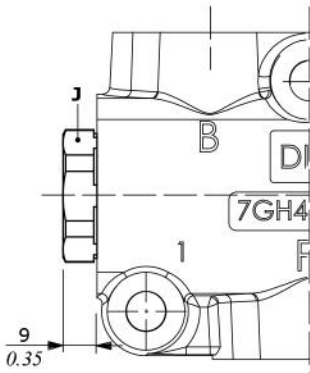
Positioner kit

With spring return in position 1

Type 18W
With plug

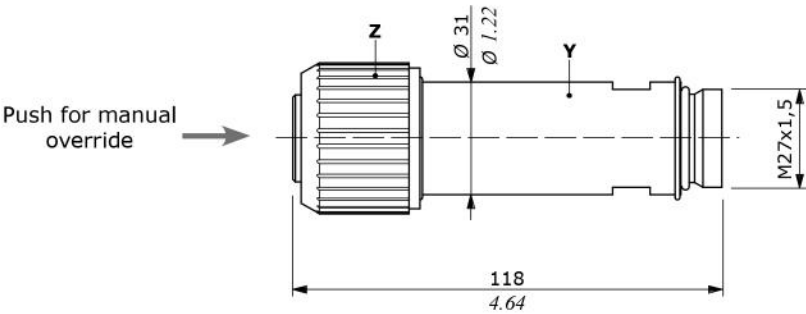
Type 18Y
With G1/4 drain port

Wrenches and tightening torque
J = wrench 27 - 24 Nm (17.7 lbft)



Solenoid kit

ES tube assembly kit



Wrenches and tightening torque
Y = wrench 27 - 24 Nm (17.7 lbft)
Z = 24 Nm (17.7 lbft)

Coil and accessories

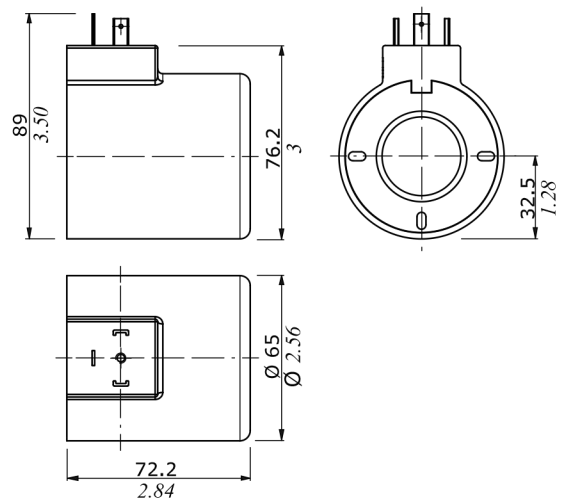
Ordering codes							
Type	Voltage	Connector types					
		ISO4400	Deutsch DT	AMP JPT	Packard Weatherpack	Packard Metri-pack	Flying leads without connector
D19	12 VDC	4SOL519112	4SOL519402 ⁽⁶⁾	-	-	-	-
	20 VDC	4SOL519120	-	-	-	-	-
	24 VDC	4SOL519124	4SOL519404 ⁽⁶⁾	-	-	-	-
	94 VDC	4SOL519194	-	-	-	-	-
	192 VDC	4SOL519292	-	-	-	-	-
Mating connectors							
		4CN1009995	5CON140031	-	-	-	-

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

Features

Nominal voltage tolerance: ±10%
Nominal power.....: 60 W
 12/20/24/94/192 VDC
Nominal current.....: 5 A @ 12 VDC
 : 3 A @ 20 VDC
 : 2.5 A @ 24 VDC
 : 2.5 A @ 94 VDC
 : 0.31 A @ 192 VDC
Insulation.....: Class H (180°C - 356 °F)
Weather protection.....: IP65 - ISO4400
 : IP69K - Deutsch DT
Insertion.....: 100%

ISO4400 connector



DEUTSCH DT04 connector
(Parallel type)

