TDK·Lambda

DRF Series

www.emea.tdk-lambda.com/drf

Industrial Test Renewable Broadcast

120W - 480W Single Output: 24V
180W - 720W Peak Power
DIN Rail Mount Power Supplies

Features	Benefits
• 150% Peak Power, 4 sec	• Better Start-up of Capacitive & Inductive Loads
• Efficiency up to 94%	• Cooler Applications - Improved Thermal Performance
• Ultra Compact Footprint	• Saves Space on Rail and Cabinet Cost
• ErP Referenced Design	• Better "Environmental Footprint"
• Remote On/Off	• For Intelligent System Implementation
• Remote Programming	• Wide Range of Applications

Specifications

MODELS		DRF-120-24-1	DRF-240-24-1	DRF-480-24-1
AC Input voltage range	VAC	85 - 264 (withstand 300VAC surge for 5s)		
Input frequency	Hz	47 - 63		
Inrush cold (typ)	A	20		
Power factor (typ) (115/230)	-	0.98/0.95	0.98/0.95	0.98/0.92
Input current (typ) (2)	A	1.2/0.6	2.4/1.2	4.7/2.5
Output voltage	V	24		
Output current	A	5	10	20
Peak output current (1)	A	7.5	15	30
Peak output power (1)	W	180	360	720
Line regulation	mV	<96		
Load regulation	mV	<240		
Ripple and noise (2 & 3)	mV	<240		
Over current protection (4)	-	> 105% peak output current		
Over voltage protection (5)	V	30 - 35.5		
Hold up time (230VAC)	ms	20		
Efficiency (typ) (230VAC)	%	91	94	
Average efficiency (230VAC)	%	88.6	92.4	92
Standby input power (230VAC)	W	< 0.5	< 0.5	< 0.75
Parallel operation (6)	-	Possible		
Series operation (6)	-	Possible		
LED indicators	-	DC OK signal - green (Vout > 80% rated output voltage): Peak power mode - red		
DC OK relay	-	Relay contact 30V/1A (closed if Vout > 80% of rated output voltage)		
Operating temperature	°C	-25°C to +70°C (60°C to 70°C derate to 75% load)		
Storage temperature (7)	°C	-40°C to +85°C		
Operating humidity	%	5-95 RH (non condensing)		
Operating altitude	m	3,000		
Cooling	-	Convection		
Withstand voltage	-	I/P to FG:1.5kVAC (20mA), I/P to O/P 3kVAC (20mA), O/P to FG: 500VAC (100mA) for 1 min		
Isolation resistance	MΩ	I/P to FG, IP to O/P and O/P to FG: >100MOhms (500VDC) at 25°C & 70%RH		
Vibration	-	Non-operating,10-55Hz(sweep for 1 min.):19.6 m/s^2 constant, X,Y,Z axis 1 hour each		
Shock	-	<196m/s^2		
Safety agency approvals	-	IEC/EN/UL60950-1, CE, UL508 listed, (ATEX / IECEx / Marine-GL approved models available)		
Emissions	-	EN55022 Class B, CISPR22-B		
Immunity	-	EN61000-4-2,-3,-4,-5,-6,-8,-11		
Weight (typ)	g	600	900	1300
Size (W x H x D)	mm	36.5 x 123.4 x 115.4	49 x 123.4 x 115.4	82 x 123.4 x 115.4
Case material	-	Metal		
Warranty	yrs	5		

See Page 2 for Notes

Notes from page 1

1. Operating period at peak output current is 4 sec, max duty cycle <35% & < rated output power
2. At 115 / 230VAC, Ta = 25°C, nominal output voltage, rated output power
3. Ripple & noise is measured at 20MHz using 300mm twisted pair of load wires terminated with 0.1μF film cap & 47μF electrolytic cap
4. Constant current (CC) limit for >105% of peak output current. CC limit with auto recovery within 4 sec, unit will shutdown at >4sec
5. Output will shutdown, manual reset by mains cycle off/on or CNT on/off
6. Refer to instruction manual
7. For -30°C startup please contact your local sales contact or relevent FAE for DIN rail

Model Selector

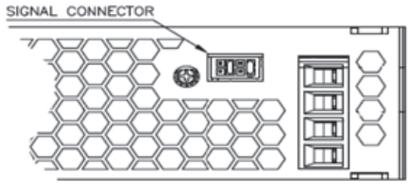
Model	Output Voltage	Output Adjust Range (V)	Max Output Current (A)	Max Output Power (W)	Efficiency at 115/230VAC (%)
DRF120-24-1	24	24 - 28	5	120	88 / 91
DRF240-24-1	24	24 - 28	10	240	93 / 94
DRF480-24-1	24	24 - 28	20	480	93 / 94

Signal Connector Pin Assignment

PIN	Function	Detail
1	CB	For parallel operation cut the link between pins 1 & 2 for droop mode current share
2	CB-COM	
3	N/C	No Connection
4	N/C	
5	CNT+	Remote ON/OFF control, when CNT+ is pulled to TTL low the power supply turns ON, otherwise it turns OFF
6	CNT-	
7	PV	Programming voltage range 5 - 6V presets the output to 24 - 28V
8	COMM	

DRF120 example*

Signal Connector: please refer to instruction manual.
Potentiometer on top of unit is for factory setting only.
Please do not adjust.

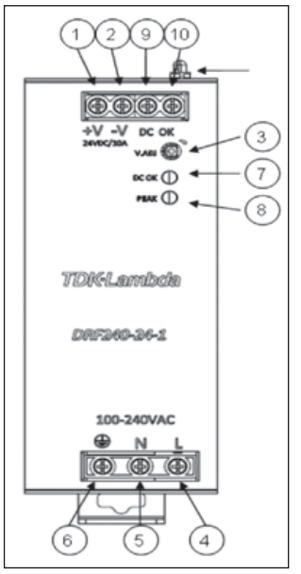


***Signal connectors are found on the topside of the unit.**
See product outline drawings for locations

Optional Models available

Suffix	Description
/HL	Conformally Coated (ATEX, IEC EX, GL)

Terminal Explanation



Connection

1 +V: +Output terminal

2 –V: –Output terminal

3 V.ADJ: Output voltage adjust trimmer
The output voltage rises when a trimmer is turned clockwise

4 L: AC Input terminal. Live line (fuse in line)

5 N: AC Input terminal. Neutral line

6 –V: Protective Earth
Connect to safety ground of apparatus or equipment

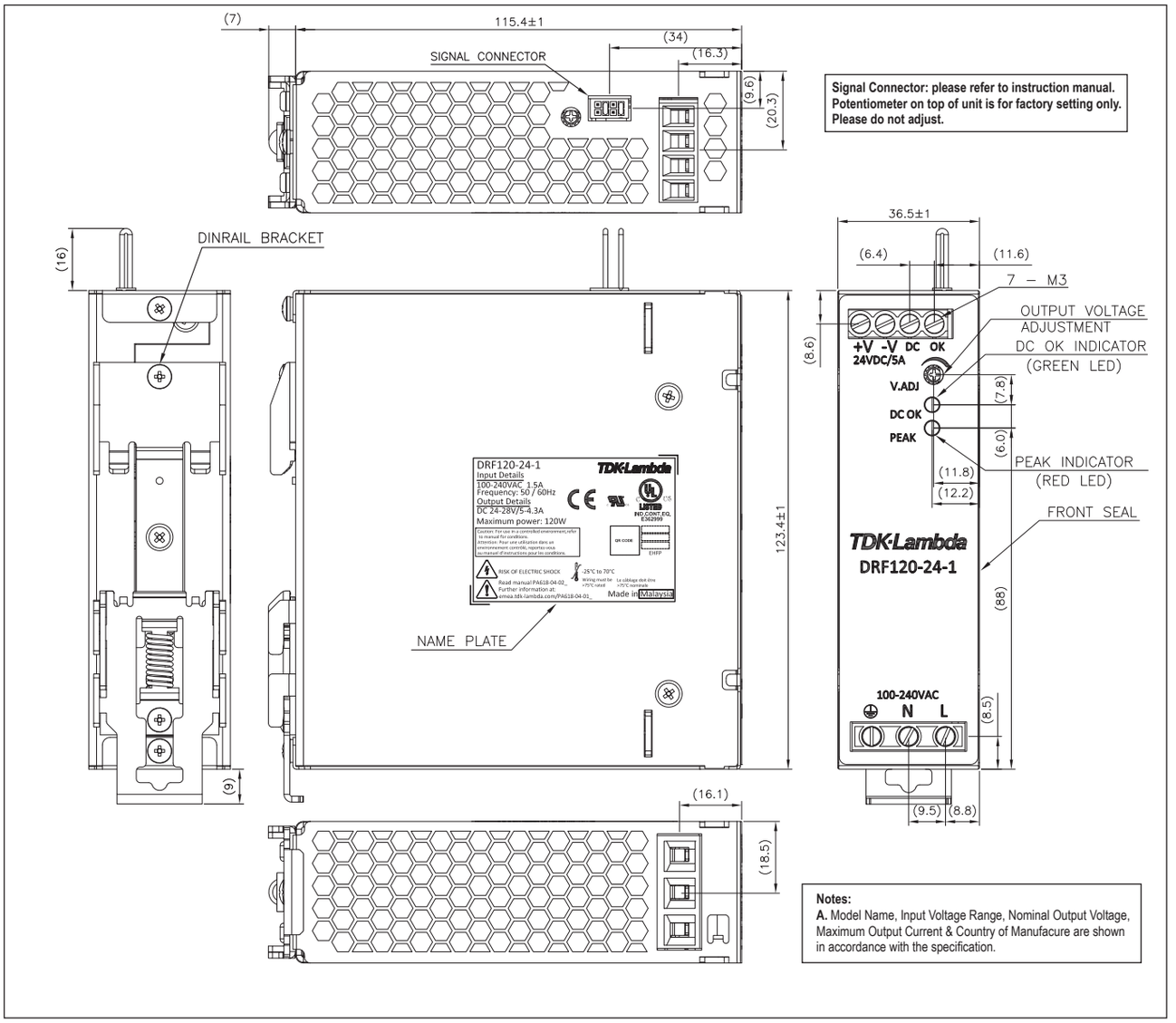
7 DC OK:
Green LED lights when output voltage is > 80% of rated output voltage

8 PEAK:
Red LED lights when unit is in peak power mode

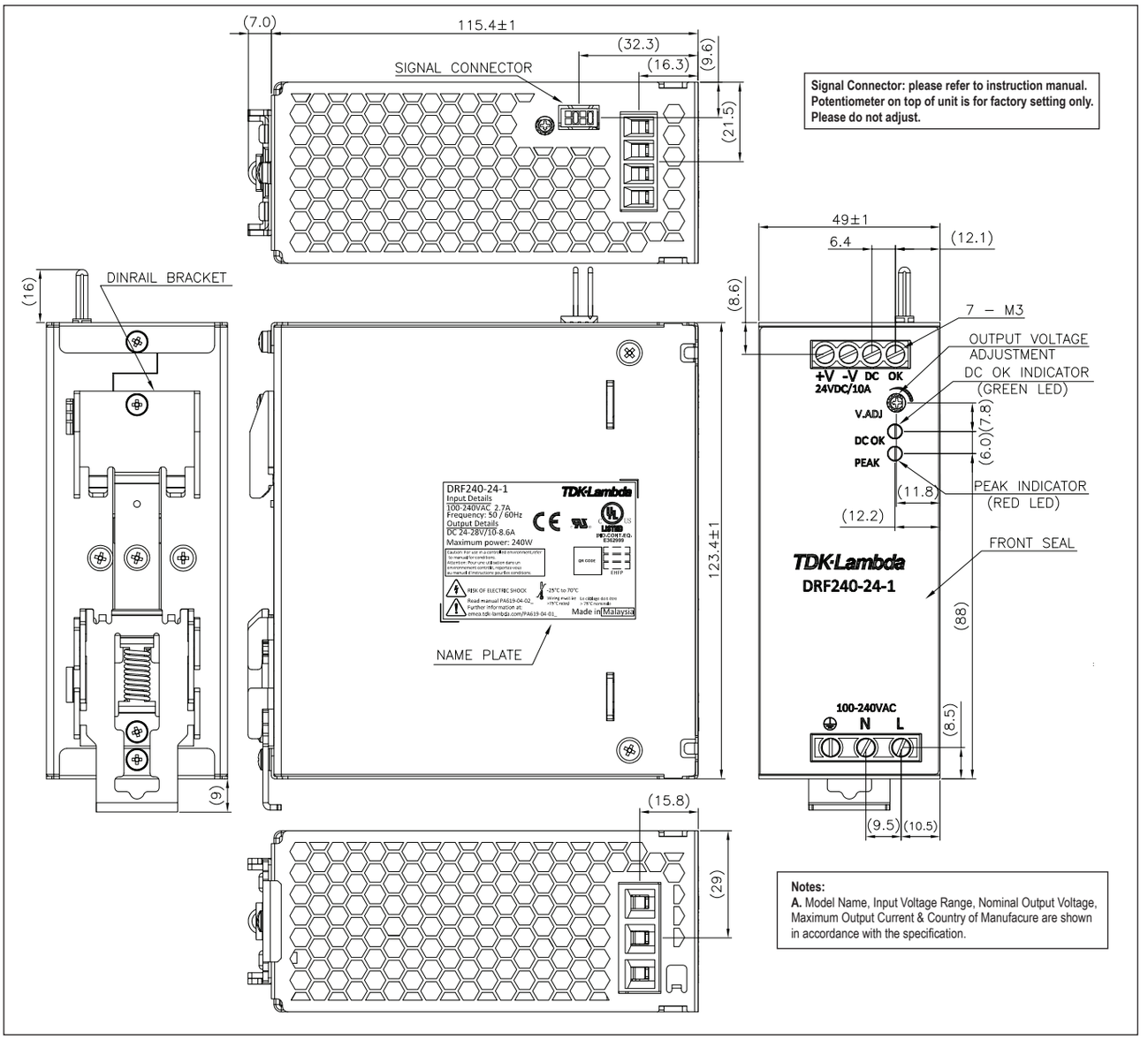
9 DC OK: Relay contact

10 DC OK: Relay contact

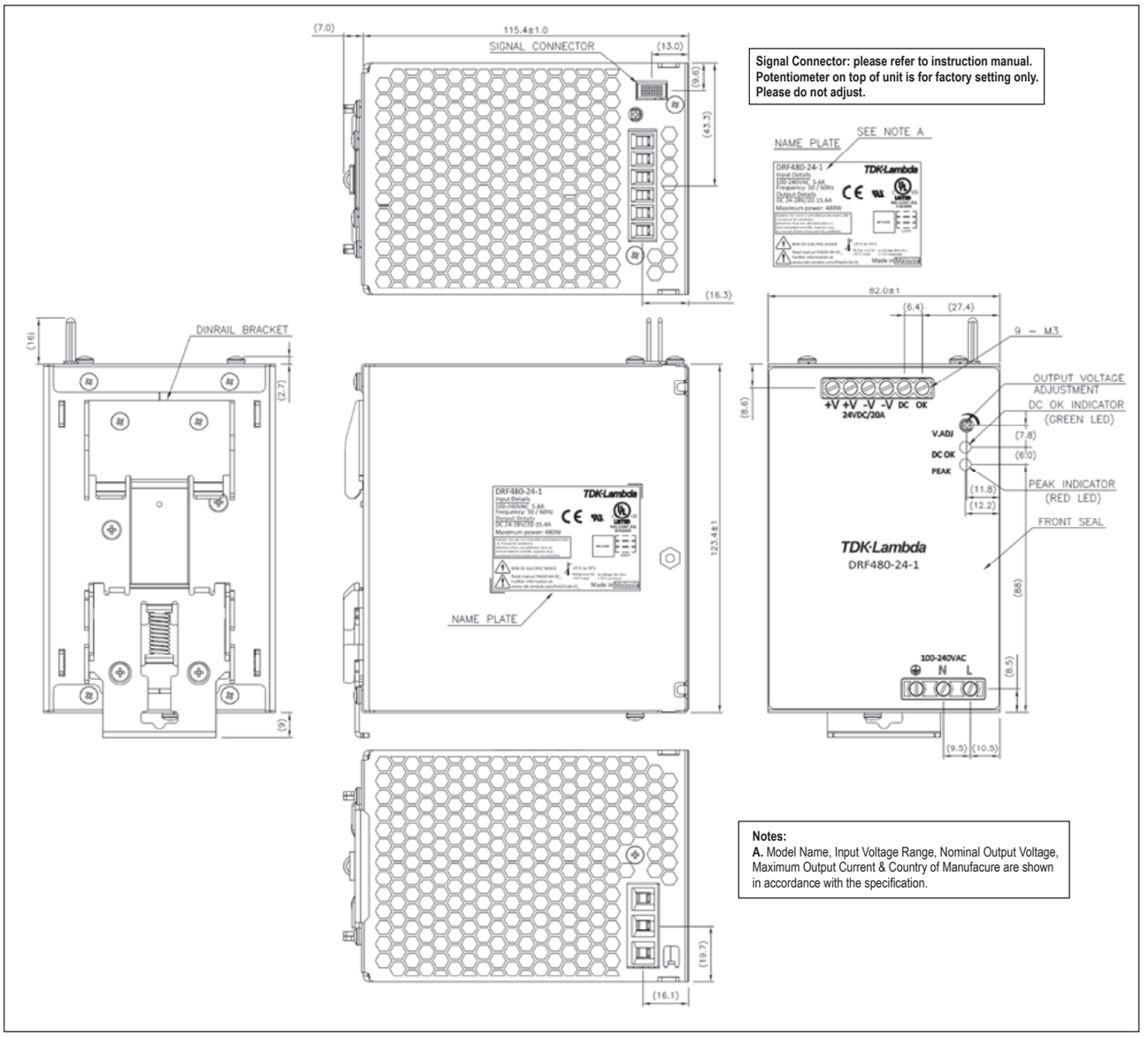
DRF120-24-1 Outline Drawing



DRF240-24-1 Outline Drawing



DRF480-24-1 Outline Drawing



TDK-Lambda France SAS
ZAC des Delaches
CS 41077
9 rue Thuillere
91978 Villebon Courtaboeuf
France
Tel: +33 1 60 12 71 65
Fax: +33 1 60 12 71 66
france@fr.tdk-lambda.com
www.fr.tdk-lambda.com