https://product.tdk.com/en/power/drl
www.emea.lambda.tdk.com/drl

10-100W Low Profile DIN Rail Mount Power Supplies



Industrial Test Semi-Fab

The low profile DRL DIN rail power supply series provides a reliable solution for many industrial and building automation applications. With double insulation and a safety Class II input, connection to earth is not required. The NEC Class 2 compliant output, in accordance with UL 1310, allows operation where output currents are to be limited under fault conditions. Available in four power ranges, the DRL series provide a choice of 12, 15 and 24 output voltages

Features	Benefits
• High Efficiency, up to 90%	• Lower Operating Costs, Improved Thermal Performance
• UL1310 Class 2 Compliant	• Suitable for Building Automation requiring NEC Class 2
• Low No Load Power Consumption	• Energy Saving
• Long E-Capacitor Life (>8 years @ 40°C, 75% Load, 230VAC)	• Long Field Life
• Class II, Wide Range Input (85-264VAC)	• Global Application, No Earth Required

Model Selector

Model	Output Voltage (V)	Adjustment Range (V)	Maximum Current (A)	Maximum Power (W)	Efficiency (115/230VAC) (%)	Overvoltage (V)	UL1310 Class 2
DRL10-12-1	12	-	0.84	10.08W	85 / 85	13.8 - 16.2	Yes
DRL30-12-1	12	12 - 15	2.1	25.2W	87 / 88	16 - 19	Yes
DRL60-12-1	12	12 - 15	4.5	54W	87 / 87	16 - 19	Yes
DRL30-15-1	15	12 - 15	1.68	25.2W	87 / 88	16 - 19	Yes
DRL60-15-1	15	12 - 15	3.6	54W	87 / 87	16 - 19	Yes
DRL10-24-1	24	-	0.42	10W	87 / 87	29 - 35	Yes
DRL30-24-1	24	24 - 28	1.25	30W	88 / 90	29 - 35	Yes
DRL60-24-1	24	24 - 28	2.5	60W	89 / 90	29 - 35	Yes
DRL100-24-1	24	24 - 28	4.2	100.8W	88 / 90	29 - 35	No
DRL100-24-1/C2	24	-	3.67	88W	88 / 90	26 - 30	Yes

Specification

Model		DRL10	DRL30	DRL60	DRL100
Input					
Input Voltage range	V	85 - 264Vac, 120 - 373Vdc*			
Input Surge Voltage	-	300Vac for 5s			
Input Frequency	Hz	47 - 63			
Input Current (110/230Vac)	A	0.18 / 0.12	0.6 / 0.4	1.2 / 0.8	2.0 / 1.1
Inrush Current at 230Vac (typ) (Cold Start)	A	40	50	60	60
Leakage Current	-	Not applicable			
Power Factor (115/230Vac)	-	0.56 / 0.42	0.6 / 0.4	0.5 / 0.43	0.5 / 0.43
Harmonic Compliance	-	Meets IEC61000-3-2 Class A			
No Load Power Consumption	W	<0.3	<0.3	<0.5	<0.5
Hold Up Time (typ) at 115Vac Input	ms	20	20	20	15
Efficiency	-	See model selector table			
Average Efficiency (1)	%	76.8	83.6	>87	87
Conducted & Radiated EMI	-	EN55032-B Conducted, EN55032-A Radiated			
Immunity	-	See model selector table			
Insulation Class	-	Construction suitable for Class II installation			
Safety Agency Certifications	-	IEC/UL/CSA/EN 62368-1, 60950-1, UL508 Listed, UL1310 Class 2 (2), CE Mark			

Immunity

Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	3	A	8kV air discharge
Radiated Susceptibility	EN61000-4-3	3	A	-
Electrical Fast Transient Burst	EN61000-4-4	4	A	-
Surge	EN61000-4-5	3	A	-
Conducted Susceptibility	EN61000-4-6	3	A	-
Magnetic fields	EN61000-4-8	4	A	-
Voltage Dips and Input Interruptions	EN61000-4-11 Class 3 Industrial	0% for 1 cycle	A	-
		40% for 10/12 cycles	B	-
		70% for 25/30 cycles	B	-
		80% for 250/300 cycles	B	-
SEMI F47 Line Dip	SEMI F47	-	-	> 200Vac input

Specification

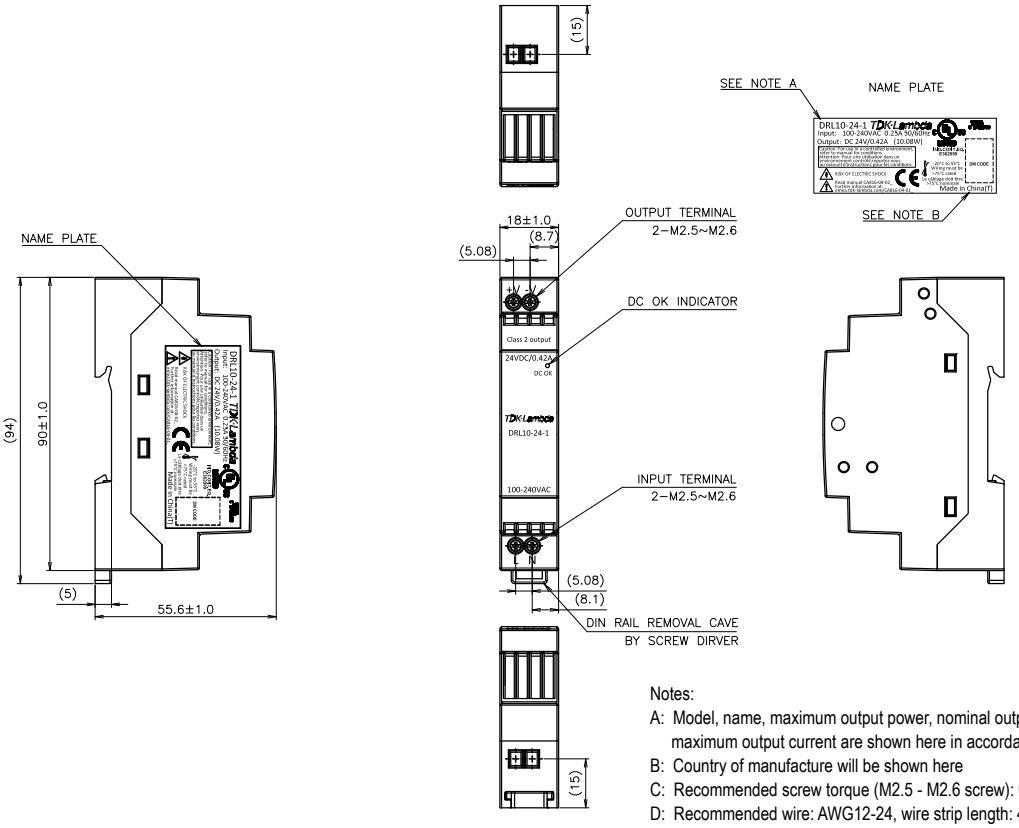
Model		DRL10	DRL30	DRL60	DRL100
Output					
Output Voltage Adjustment	-	See model selector table			
Switching Frequency (230Vac 100% Load) (3)	kHz	~103.6	96.9 - 103.8	87 - 94	84.4 - 95.5
Line Regulation	mV	12 - 15V Outputs: 120; 24V Output: 240			
Load Regulation	mV	12 - 15V Outputs: 120; 24V Output: 240			
Ripple & Noise	mV	12 - 15V Outputs: 120; 24V Output: 240			
Temperature Coefficient	%/°C	<±0.02			
Minimum Load	-	No minimum load required			
Overcurrent Protection	%	>105 Hiccup mode with auto recovery			
Overvoltage Protection	V	See model selector table			
Overtemperature Protection	-	-			
Remote Sense	-	-			
Remote On/Off	-	-			
DC Good	-	-			
Indicators & Signals	-	Green LED indicates DC is OK			
Parallel Operation	-	Not available			
Series Operation	-	Possible, see installation manual			

Specification

Model		DRL10	DRL30	DRL60	DRL100
Environmental					
Operating Temperature (-25°C start-up)	°C	DRB10, DRB30, DRB60: -20 to +71°C full load at +55°C; (derate linearly to 60% load at +71°C) DRL100:-20 to +71°C. 115Vac~240Vac: full load at +51°C; (derate linearly to 60% load at +71°C) 100Vac~115Vac: full load at +40°C; (derate linearly to 40% load at +71°C)			
Storage Temperature	°C	-40 to +85			
Operating Humidity (non condensing)	%RH	5 - 95			
Cooling	-	Convection			
Altitude	m	3,000			
Withstand Voltage (For 1 minute)	VAC	Input to Output 3,000			
Isolation Resistance	MΩ	>100 at 25°C, 70%RH & 500VDC			
Vibration (Operating)	-	IEC 60068-2-6, Sine Wave, 10-500Hz, 19.6m/s^2 (2G peak) 10 min per cycle, 60 min for all X,Y,Z directions			
Shock	-	IEC 60068-2-27, Half Sine Wave, 39.2m/s^2 (4G) for a duration of 22ms 3 shocks for each 3 directions, 9 times in total			
Other					
Weight (Typ)	g	65	120	200	280
Size (WxHxD)	mm	18 x 91 x 55.6	36 x 91 x 55.6	54 x 91 x 55.6	72 x 91 x 55.6
Size (WxHxD)	Inches	0.71 x 3.58 x 2.19	1.42 x 3.58 x 2.19	2.13 x 3.58 x 2.19	2.83 x 3.58 x 2.19
Case Material	-	Flame Retardant Polycarbonate (UL94 V-0)			
DIN Rail Type	-	Suitable for mounting on DIN Rail TS-35/7.5 or TS35/15			
MTBF - Telcordia SR-332 issue 3**	Hours	1,401,366	704,390	369,824	437,110
Warranty	yrs	3			

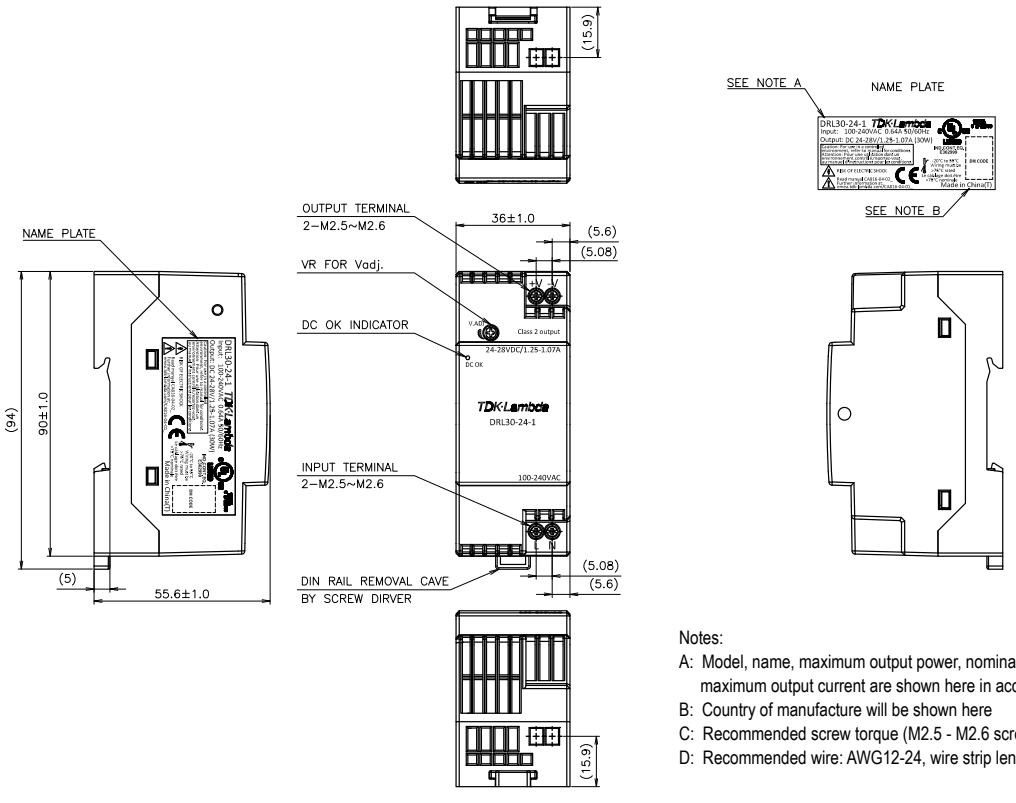
Notes
See website for detailed specifications, test methods and installation manuals
(1) Measured at 25%, 50%, 75% and 100% load conditions
(2) NEC Class 2 in accordance with UL1310. Excludes DRL100-24-1 model
(3) See evaluation data on website
* Safety certified for AC input only
**24V output model, 55°C ambient, full load, 230Vac input

Outline Drawing DRL10-1



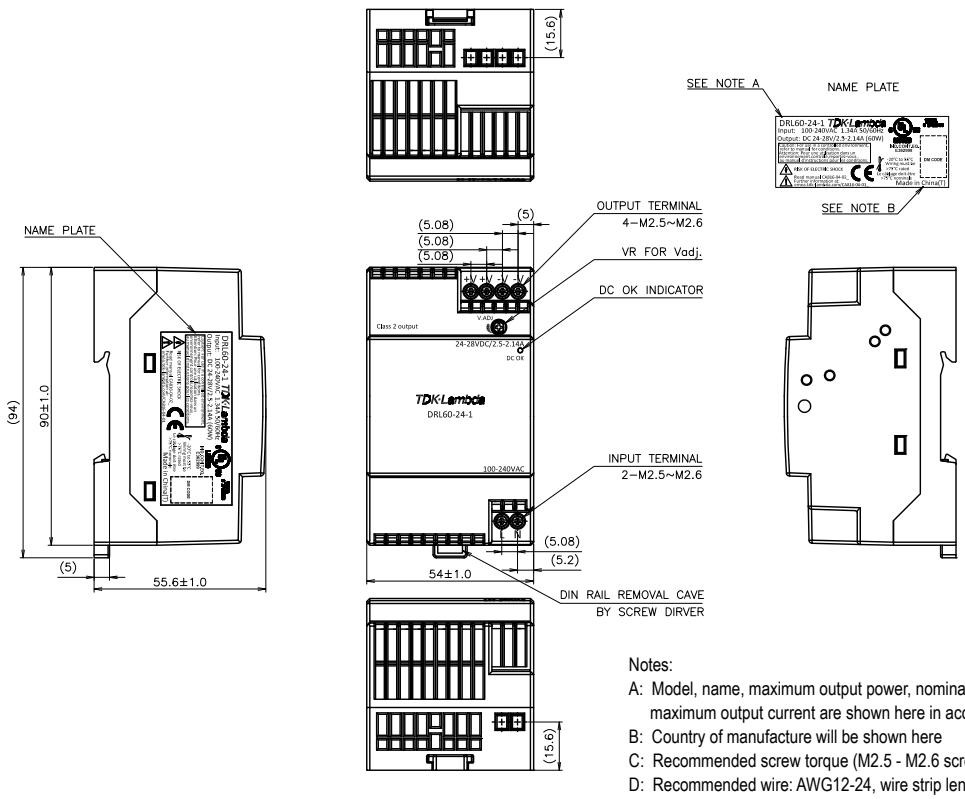
Notes:
A: Model, name, maximum output power, nominal output voltage, maximum output current are shown here in accordance with the specifications
B: Country of manufacture will be shown here
C: Recommended screw torque (M2.5 - M2.6 screw): 0.56N•m (5.0 lb•inch)
D: Recommended wire: AWG12-24, wire strip length: 4-5mm, 5mm max

Outline Drawing DRL30-1



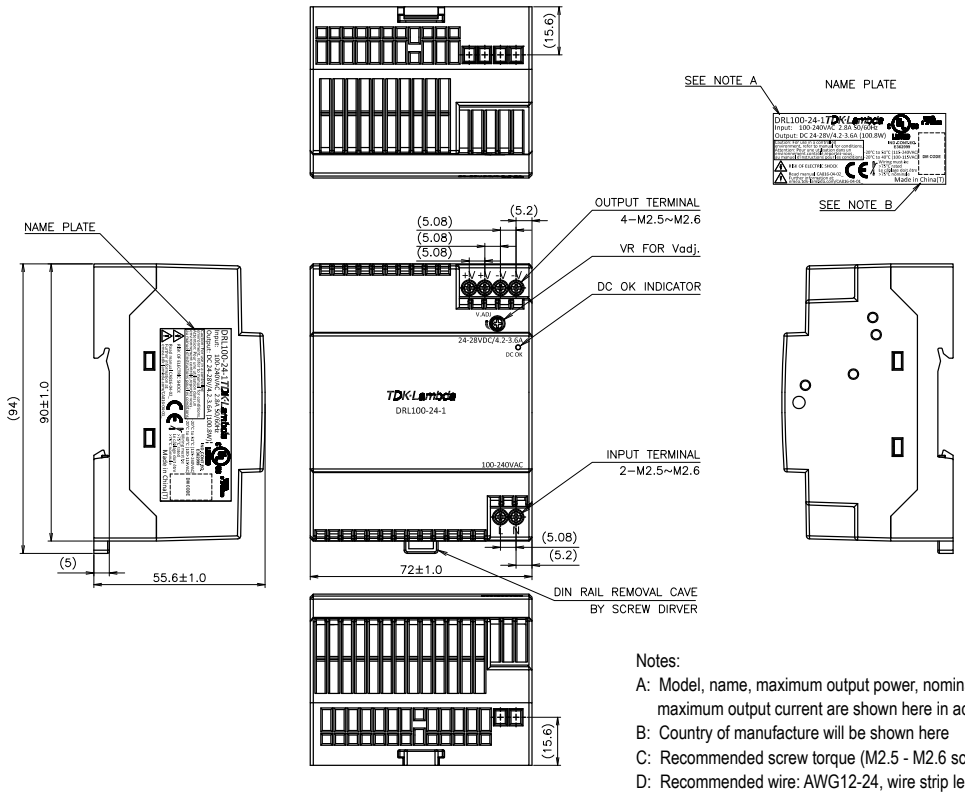
Notes:
A: Model, name, maximum output power, nominal output voltage, maximum output current are shown here in accordance with the specifications
B: Country of manufacture will be shown here
C: Recommended screw torque (M2.5 - M2.6 screw): 0.56N•m (5.0 lb•inch)
D: Recommended wire: AWG12-24, wire strip length: 4-5mm, 5mm max

Outline Drawing DRL60-1



Notes:
A: Model, name, maximum output power, nominal output voltage, maximum output current are shown here in accordance with the specifications
B: Country of manufacture will be shown here
C: Recommended screw torque (M2.5 - M2.6 screw): 0.56N•m (5.0 lb•inch)
D: Recommended wire: AWG12-24, wire strip length: 4-5mm, 5mm max

Outline Drawing DRL100-1



Notes:
A: Model, name, maximum output power, nominal output voltage, maximum output current are shown here in accordance with the specifications
B: Country of manufacture will be shown here
C: Recommended screw torque (M2.5 - M2.6 screw): 0.56N•m (5.0 lb•inch)
D: Recommended wire: AWG12-24, wire strip length: 4-5mm, 5mm max

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