

## 10-100W Low Profile DIN Rail Mount Power Supplies

<https://product.tdk.com/en/power/drl>  
[www.emea.lambda.tdk.com/drl](http://www.emea.lambda.tdk.com/drl)



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     |
| <b>Input</b>                                |    |                                                                           |           |            |            |
| 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<br>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      |
| <b>Output</b>                              |      |                                        |              |         |             |
| 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     | DRL100 (<115Vac): -20 to +71, derate linearly from 100% to 40% load from 40 to 71<br>DRL100: -20 to +71, derate linearly from 100% to 60% load from 51 to 71<br>DRL100 (<115Vac): -20 to +71, derate linearly from 100% to 40% load from 40 to 71 |                    |                    |                    |
| 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/s² (2G peak)<br>10 min per cycle, 60 min for all X,Y,Z directions                                                                                                                                       |                    |                    |                    |
| Shock                                  | -      | IEC 60068-2-27, Half Sine Wave, 39.2m/s² (4G ) for a duration of 22ms<br>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

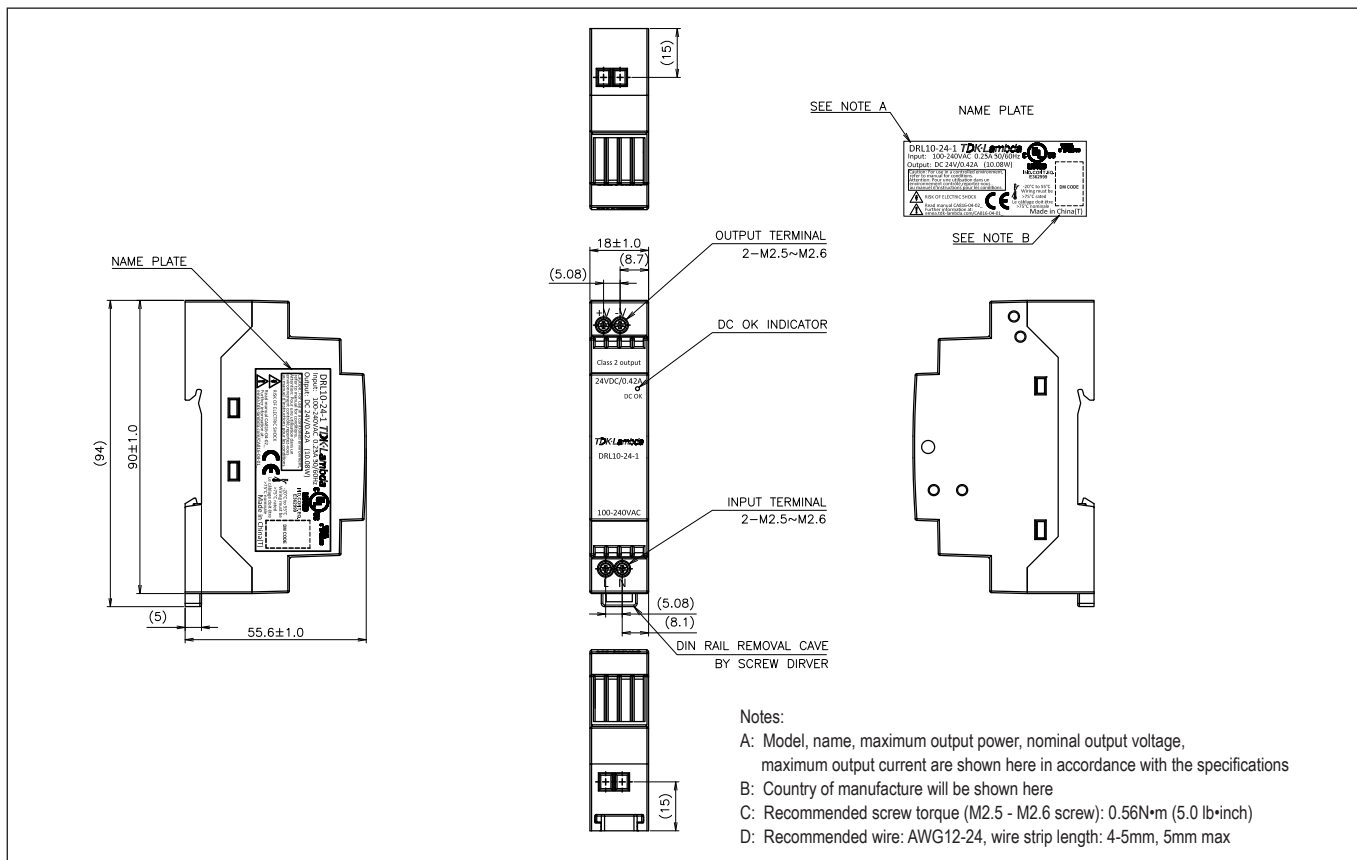
(2) NEC Class 2 in accordance with UL1310. Excludes DRL100-24-1 model

(3) See evaluation data on website

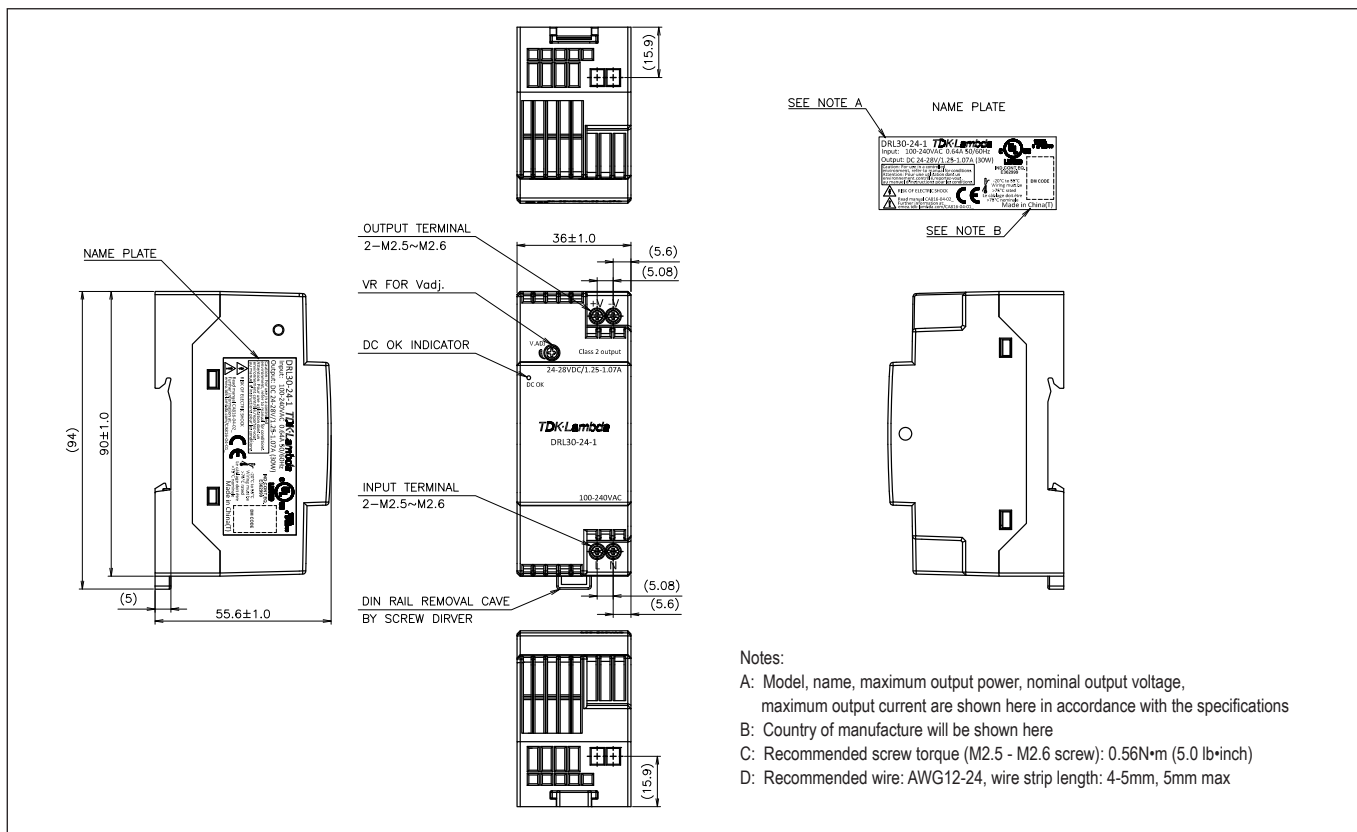
\* Safety certified for AC input only

\*\*24V output model, 55°C ambient, full load, 230Vac input

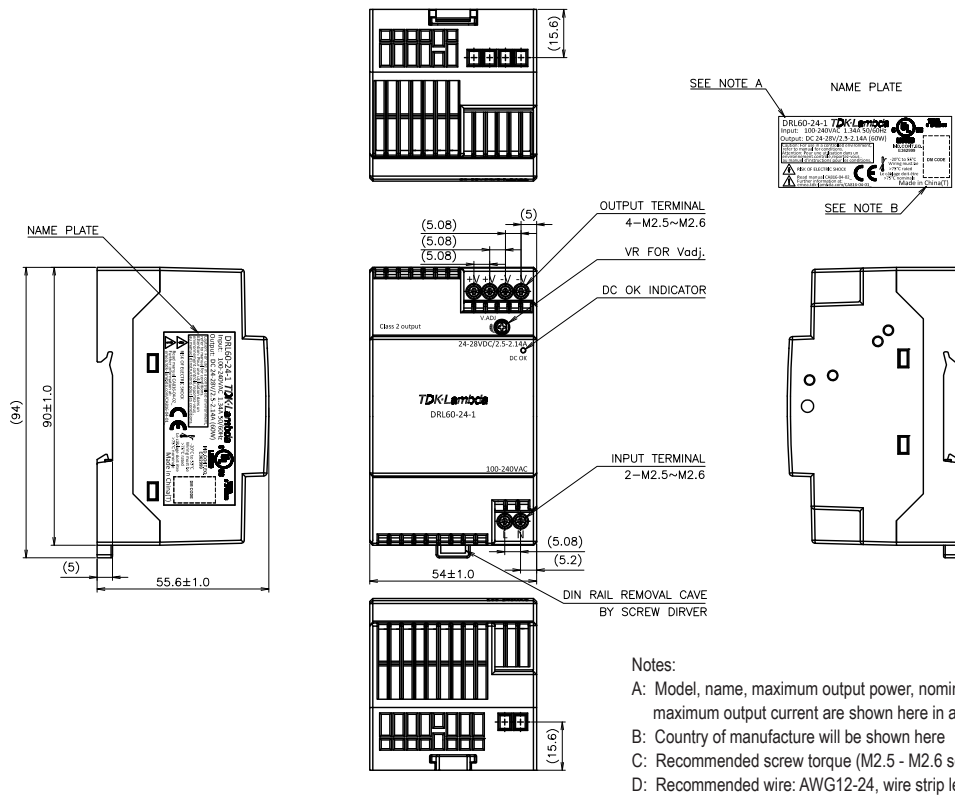
## Outline Drawing DRL10-1



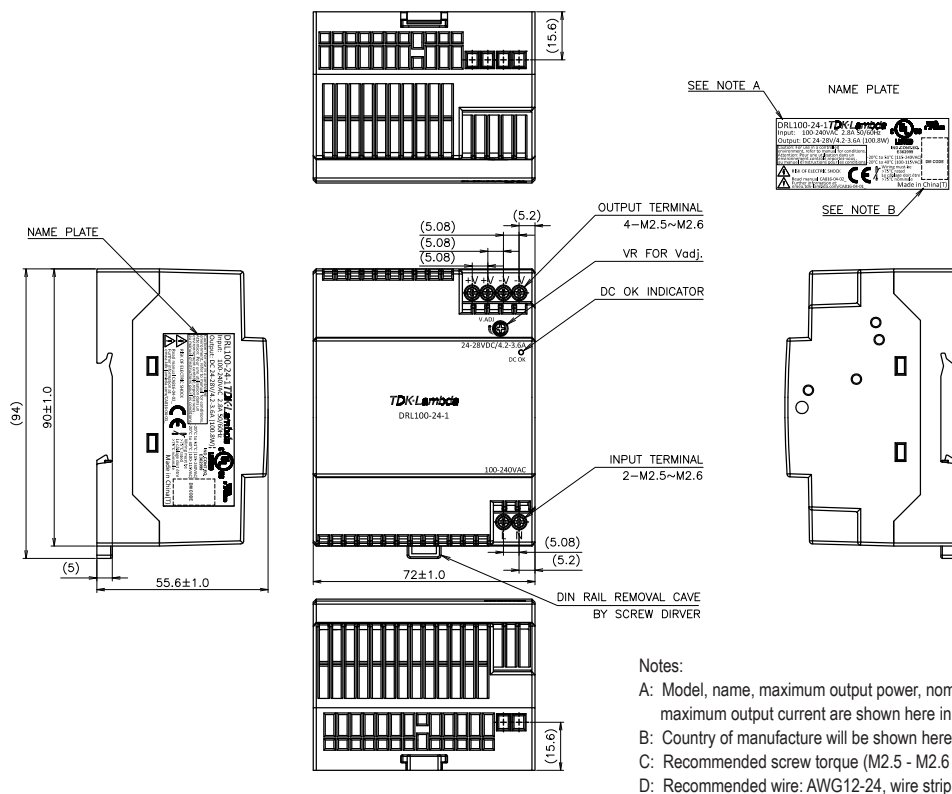
## Outline Drawing DRL30-1



## Outline Drawing DRL60-1



## Outline Drawing DRL100-1





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