

HDR Series

Ultra-Slim Class II Step-Shape DIN Rail Power Supply

Ultra-slim Class II step-shape plastic-housing DIN rail power supply for building automation, household control and industrial control applications. Available in **15W – 150W**, with **5 / 12 / 15 / 24 / 48 VDC** output, universal **85–264 VAC** input, **no-load consumption below 0.3W**, efficiency up to **91%**, 1SU–6SU slim width, and **UL508** approval.

DOCUMENT

TITLE	HDR Series Datasheet
DOC NO.	HDR-DS-001
REVISION	Rev. 1.0
DATE	2024-01

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AT A GLANCE

15–150 W OUTPUT POWER	85–264 VAC UNIVERSAL AC INPUT	Class II DOUBLE INSULATION	< 0.3 W NO-LOAD CONSUMPTION
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HDR Series Overview

Ultra-slim Class II step-shape DIN rail power supply for building automation, household control and industrial control applications.

The DAPPRA HDR Series is an ultra-slim Class II step-shape DIN rail power supply series designed for building automation, household control and industrial control applications. It covers five power ratings — 15W, 30W, 60W, 100W and 150W — with single-output configurations of 5V, 12V, 15V, 24V and 48V DC.

The entire series is Class II double insulated with plastic housing, effectively preventing user contact with electrical hazards and requiring no grounding connection. All models share a uniform 90 mm height in line with DIN EN43880 and are available in widths from 1SU (17.5 mm) to 6SU (105 mm). The HDR Series meets BS EN/EN61000-3-2 Class A harmonic current requirements and is certified for household and industrial control applications.

CORE SPECIFICATIONS

Series	DAPPRA HDR Series
Product Type	Ultra-Slim Class II Step-Shape DIN Rail Power Supply
Output Power	15 / 30 / 60 / 100 / 150 W
Output Voltage	5 / 12 / 15 / 24 / 48 VDC
Input Voltage	85–264 VAC (277 VAC operational) · 120–370 VDC
Isolation	Class II Double Insulation — no grounding required
No-Load Consumption	< 0.3 W (all models)
Efficiency	up to 91% (HDR-60-48)
Cooling	Fanless natural convection
Protection	Short circuit / Overload / Over voltage
Housing	Plastic, step-shape — 1SU to 6SU widths
Mounting	TS35/7.5 or TS35/15 DIN rail
Certification	UL62368-1 · UL508 · TUV BS EN/EN61558-2-16 · IEC62368-1

HDR Series Key Features

Engineered for ultra-slim, safety-isolated DIN rail power supply applications.

CLASS II DOUBLE INSULATION

The entire HDR Series is Class II double insulated with plastic housing, effectively preventing user contact with electrical hazards. No grounding connection is required.

ULTRA-SLIM STEP-SHAPE HOUSING (1SU-6SU)

HDR-15 is only 17.5 mm (1SU) wide; HDR-30 is 35 mm (2SU); HDR-60 is 52.5 mm (3SU); HDR-100 is 70 mm (4SU); HDR-150 is 105 mm (6SU). All models share a uniform 90 mm height in line with DIN EN43880.

UNIVERSAL AC INPUT 85-264 VAC

Full-range single-phase AC input supports global mains voltages (277 VAC operational). Also supports 120–370 VDC input (390 VDC operational).

EXTREMELY LOW NO-LOAD CONSUMPTION

All models have no-load power consumption below 0.3W — fulfilling worldwide low-power regulations for household and industrial electronics.

HIGH EFFICIENCY UP TO 91%

Efficiency ranges from 80% (HDR-15-5) up to 91% (HDR-60-48), reducing energy consumption and heat generation in control cabinets.

LPS CERTIFIED (SELECTED MODELS)

HDR-15, HDR-30, HDR-60 and HDR-100 Blank type pass LPS (Limited Power Source) certification for use in safety-critical circuits requiring limited energy.

COMPLETE PROTECTION FUNCTIONS

Short circuit protection, overload protection (hiccup mode or constant current limiting, auto-recovery), and over voltage protection are built in.

WIDE OPERATING TEMPERATURE RANGE

-30°C to +70°C with derating above +50°C. Free air convection cooling with no moving parts — ideal for dusty environments and silent operation.

TS35 DIN RAIL MOUNTING

Admissible DIN rail: TS35/7.5 or TS35/15. LED indicator for power on. 3 years warranty.

HDR Series Model Code & Selection

Select the appropriate HDR model according to the required output power, output voltage and SU width.

Model Code Structure

HDR - 100 - 24 N

FIELD	MEANING	AVAILABLE VALUES
HDR	Series prefix	HDR
100	Output Wattage — rated output power in Watts	15 / 30 / 60 / 100 / 150
24	Output Voltage — nominal DC output voltage	5 / 12 / 15 / 24 / 48 VDC
N	Performance Suffix — LPS / Non-LPS difference	Blank (LPS, 92W) / N (Non-LPS, 100W)

Example: HDR-100-24N = HDR Series, 100W output power, 24V DC output, N type (Non-LPS, 100W max).

MODEL LIST - HDR-15 / HDR-30 (15W / 30W)

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RATED POWER	EFFICIENCY	WIDTH
HDR-15-5	5 VDC	2.4 A	12 W	80%	17.5 mm (1SU)
HDR-15-12	12 VDC	1.25 A	15 W	85%	17.5 mm (1SU)
HDR-15-15	15 VDC	1 A	15 W	85.5%	17.5 mm (1SU)
HDR-15-24	24 VDC	0.63 A	15.2 W	86%	17.5 mm (1SU)
HDR-15-48	48 VDC	0.32 A	15.4 W	87%	17.5 mm (1SU)
HDR-30-5	5 VDC	3 A	15 W	82%	35 mm (2SU)
HDR-30-12	12 VDC	2 A	24 W	88%	35 mm (2SU)
HDR-30-15	15 VDC	2 A	30 W	89%	35 mm (2SU)
HDR-30-24	24 VDC	1.5 A	36 W	89%	35 mm (2SU)
HDR-30-48	48 VDC	0.75 A	36 W	90%	35 mm (2SU)

MODEL LIST - HDR-60 (60W)

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RATED POWER	EFFICIENCY	WIDTH
HDR-60-5	5 VDC	6.5 A	32.5 W	85%	52.5 mm (3SU)
HDR-60-12	12 VDC	4.5 A	54 W	88%	52.5 mm (3SU)
HDR-60-15	15 VDC	4 A	60 W	89%	52.5 mm (3SU)
HDR-60-24	24 VDC	2.5 A	60 W	90%	52.5 mm (3SU)
HDR-60-48	48 VDC	1.25 A	60 W	91%	52.5 mm (3SU)

HDR Series Model List (100W–150W)

The HDR-100 is available in Blank type (92W max, LPS) and N type (100W max, Non-LPS).

MODEL LIST – HDR-100 (85–100W)

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RATED POWER	EFFICIENCY	TYPE
HDR-100-12	12 VDC	7.1 A	85.2 W	88%	Blank (LPS)
HDR-100-12N	12 VDC	7.5 A	90 W	88%	N (Non-LPS)
HDR-100-15	15 VDC	6.13 A	92 W	89%	Blank (LPS)
HDR-100-15N	15 VDC	6.5 A	97.5 W	89%	N (Non-LPS)
HDR-100-24	24 VDC	3.83 A	92 W	90%	Blank (LPS)
HDR-100-24N	24 VDC	4.2 A	100.8 W	90%	N (Non-LPS)
HDR-100-48	48 VDC	1.92 A	92.2 W	90%	Blank (LPS)
HDR-100-48N	48 VDC	2.1 A	100.8 W	90%	N (Non-LPS)

MODEL LIST – HDR-150 (150W)

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT (230VAC)	RATED POWER (230VAC)	EFFICIENCY	WIDTH
HDR-150-12	12 VDC	11.3 A	135.6 W	89%	105 mm (6SU)
HDR-150-15	15 VDC	9.5 A	142.5 W	89.5%	105 mm (6SU)
HDR-150-24	24 VDC	6.25 A	150 W	90.5%	105 mm (6SU)
HDR-150-48	48 VDC	3.2 A	153.6 W	90.5%	105 mm (6SU)

HDR-150 output current and power differ between 115VAC and 230VAC input. Refer to the specification table for detailed ratings.

Output current and output wattage must not exceed the rated value on the specification. Choose Blank type for LPS requirements; choose N type for maximum output power.

HDR Series Dimensions

Ultra-slim step-shape plastic housing with uniform 90 mm height in line with DIN EN43880. All dimensions in mm, tolerance ± 0.5 mm.

HDR-15 (1SU)

Width (W)	17.5 mm
Height (H)	90 mm
Depth (D)	54.5 mm
Housing	Plastic
Isolation	Class II

HDR-30 (2SU)

Width (W)	35 mm
Height (H)	90 mm
Depth (D)	54.5 mm
Housing	Plastic
Isolation	Class II

HDR-60 (3SU)

Width (W)	52.5 mm
Height (H)	90 mm
Depth (D)	54.5 mm
Housing	Plastic
Isolation	Class II

HDR-100 (4SU)

Width (W)	70 mm
Height (H)	90 mm
Depth (D)	54.5 mm
Housing	Plastic
Isolation	Class II

HDR-150 (6SU)

Width (W)	105 mm
Height (H)	90 mm
Depth (D)	54.5 mm
Housing	Plastic
Isolation	Class II

MOUNTING

DIN Rail	TS35/7.5 or TS35/15
Cooling	Free air convection
Height Standard	90 mm (DIN EN43880)
Operating Temp.	-30 ~ +70 °C

Measurement unit: mm. Data is manually measured and may contain minor deviations — please refer to the actual product for final dimensions. Mounting: TS35/7.5 or TS35/15 DIN rail.

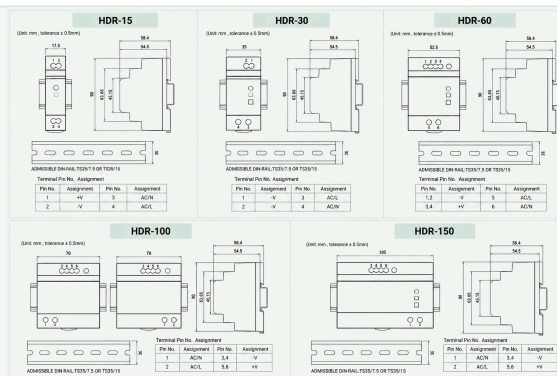


FIGURE 1 · HDR SERIES MECHANICAL DIMENSIONS

HDR Series Installation

The HDR Series supports DIN rail mounting with specific ventilation clearance and orientation requirements for reliable operation.

01 / 06 Vertical Orientation Only The appropriate mounting orientation is vertical — input terminals at the bottom and output terminals at the top. Upside-down, horizontal or table-top mounting is not allowed.	02 / 06 Ventilation Clearance Always allow good ventilation clearances around the unit: 5 mm left and right, 40 mm above and 20 mm below. Keep 10–15 cm clearance if adjacent to a heat source.	03 / 06 TS35 DIN Rail Mounting Admissible DIN rail: TS35/7.5 or TS35/15. Fit over the top hat rail, slide downward until it hits the stop, press against the bottom for locking.
04 / 06 Class II — No Grounding Required The entire HDR Series is Class II double insulated with plastic housing. No grounding connection (FG/PE) is required, simplifying installation in building automation.	05 / 06 Operating Temperature Limits All HDR models operate from -30°C to +70°C with derating above +50°C. Do not install near fire sources or high ambient temperature locations.	06 / 06 Pollution Degree 2 Environment Install the unit only in a pollution degree 2 environment — typically dry, well-ventilated locations such as control cabinets.

HDR Series Wiring & Terminal

The HDR Series terminal pin assignment varies by model. Use copper wire only and ensure all strands enter the terminal connection.

HDR-15 — 4 PINS

PIN NO.	ASSIGNMENT
1	DC OUTPUT +V
2	DC OUTPUT -V
3	AC/N
4	AC/L

HDR-15 uses a 4-pin terminal layout.

HDR-30 — 4 PINS

PIN NO.	ASSIGNMENT
1	DC OUTPUT +V
2	DC OUTPUT -V
3	AC/L
4	AC/N

HDR-30 TB1 order differs from HDR-15 — AC/L before AC/N.

HDR-60 — 6 PINS

PIN NO.	ASSIGNMENT
1, 2	DC OUTPUT -V
3, 4	DC OUTPUT +V
5	AC/L
6	AC/N

HDR-100 — 6 PINS

PIN NO.	ASSIGNMENT
1	AC/L
2	AC/N
3, 4	DC OUTPUT -V
5, 6	DC OUTPUT +V

HDR-100 TB1 order differs from HDR-60 — AC input is first.

HDR-150 — 6 PINS

PIN NO.	ASSIGNMENT
1	AC/N
2	AC/L
3, 4	DC OUTPUT -V
5, 6	DC OUTPUT +V

HDR-150 TB1 order differs from HDR-100 — AC/N before AC/L.

FRONT PANEL CONTROLS

+V ADJ	DC output voltage adjustment (all models)
Power LED	Power-on indicator (all models)

The entire HDR Series is Class II design without an FG pin.

Wiring Note: Terminal pin order varies between HDR-15, HDR-30, HDR-60, HDR-100 and HDR-150 — always verify the terminal label before wiring. Both -V pins and both +V pins (on 6-pin models) should be connected to prevent excessive current stress on a single contact.

HDR Series Wiring Specification

Recommended wire gauge, terminal torque settings, and 100W type difference for the HDR Series.

RECOMMENDED WIRE		
AWG	CURRENT	CROSS-SECTION
18	0-6 A	0.75 mm ²
16	6-10 A	1.00 mm ²
14	13-16 A	1.52 mm ²
12	16-25 A	2.5 mm ²
Use stranded copper wire only. ≥80°C (e.g. UL1007).		

TERMINAL TORQUE	
MODEL GROUP	TORQUE
HDR-15 / 30 / 60	4.5 kgf-cm
HDR-100 / 150	4.5 kgf-cm
5 mm stripping length. 3 mm slotted screwdriver.	

HDR-100 TYPE DIFFERENCE	
TYPE	DESCRIPTION
B l ank	92W max, Pass LPS, narrower output adjustable range
N	100W max, Non-LPS, wider output adjustable range
Choose based on LPS requirement and output power.	

DC Output Voltage Adjustment: All HDR models include a front-panel (+V ADJ) and a power-on LED indicator. The rated output voltage can be adjusted within the voltage adjustment range specified for each model. Output current and output wattage must not exceed the rated value on the specification.

HDR Series Safety & Cautions

Read and follow all safety instructions before installing, wiring, maintaining or modifying the HDR Series power supply.

01 • ELECTRICAL SHOCK HAZARD

Risk of electrical shock and energy hazard. All failures should be examined by a qualified technician. Do not remove the case.

02 • PRIMARY / SECONDARY ISOLATION

Connecting both the primary and the secondary sides together is not allowed — risk of electric arcs and electric shock (danger to life).

03 • BURN HAZARD

Do not touch the unit in operation and shortly after disconnection.

04 • FIRE & SHORT CIRCUIT

The openings should be protected from foreign objects or dripping liquids.

05 • RATED OUTPUT

Output current and output wattage must not exceed the rated value on its specification.

06 • BEFORE SERVICING

Disconnect the system from supply voltage before any installation, maintenance or modification work.

07 • FUSE REPLACEMENT

For continued protection against risk of fire, replace only with the same type and rating of fuse.

08 • EMC DIRECTIVE

The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

Pollution Degree 2: Applies where there is only non-conductive pollution that might temporarily become conductive due to occasional condensation. Generally refers to dry, well-ventilated locations, such as control cabinets.

HDR Series Industrial Applications

The HDR Series is suitable for household control systems, building automation, industrial control systems, factory automation and electromechanical apparatus.

▣ Household Control Systems	▣ Building Automation	▣ Industrial Control Systems
▣ Factory Automation	▣ Electromechanical Apparatus	▣ Home Automation
▣ Security Systems	▣ Network Equipment	▣ Telecommunication

— TYPICAL USE CASES

BUILDING & HOME AUTOMATION

Class II double insulation eliminates the need for an earth ground, making the HDR Series ideal for building control panels and smart home appliances.

CONTROL CABINETS

Ultra-slim 17.5–105 mm (1SU–6SU) housing and DIN rail mounting make the HDR Series ideal for space-constrained control cabinets.

ENERGY-SAVING APPLICATIONS

No-load consumption below 0.3W and efficiency up to 91% support energy-efficient standby operation and low thermal footprint.

SAFETY-CRITICAL CIRCUITS

HDR-15, HDR-30, HDR-60 and HDR-100 Blank type pass LPS certification for use in limited-energy safety-critical circuits.

FAQ & Contact Information

Frequently asked questions and DAPPRA contact details.

What is the DAPPRA HDR Series?

The DAPPRA HDR Series is an ultra-slim Class II step-shape DIN rail power supply series. It covers 15W, 30W, 60W, 100W and 150W with 5V, 12V, 15V, 24V and 48V output configurations, designed for building automation, household control and industrial control applications.

What is the input voltage range of the HDR Series?

All HDR Series models support a universal AC input range of 85–264 VAC (277 VAC operational) or 120–370 VDC (390 VDC operational).

Are all HDR Series models Class II double insulated?

Yes. The entire HDR Series is Class II double insulated with plastic housing, requiring no grounding connection. This makes the series suitable for building automation and household control systems.

What does 1SU, 2SU, 3SU, 4SU and 6SU mean in the HDR Series?

SU stands for Standard Unit (1SU = 17.5 mm). The HDR-15 is 1SU (17.5 mm), HDR-30 is 2SU (35 mm), HDR-60 is 3SU (52.5 mm), HDR-100 is 4SU (70 mm) and HDR-150 is 6SU (105 mm). All models share a uniform 90 mm height in line with DIN EN43880.

What is the no-load power consumption of the HDR Series?

All HDR Series models have a no-load power consumption below 0.3W, supporting energy-efficient standby operation.

What is the efficiency of the HDR Series?

Efficiency ranges from 80% (HDR-15-5) up to 91% (HDR-60-48), depending on the model and output voltage.

What is the operating temperature range of the HDR Series?

All HDR Series models operate from -30°C to +70°C with derating above +50°C. Free air convection cooling with no moving parts.

What is the terminal pin assignment of the HDR Series?

Terminal pin assignment varies by model: HDR-15: 1=+V, 2=-V, 3=AC/N, 4=AC/L. HDR-30: 1=+V, 2=-V, 3=AC/L, 4=AC/N. HDR-60: 1,2=-V, 3,4=+V, 5=AC/L, 6=AC/N. HDR-100: 1=AC/L, 2=AC/N, 3,4=-V, 5,6=+V. HDR-150: 1=AC/N, 2=AC/L, 3,4=-V, 5,6=+V.

What is the difference between HDR-100 Blank type and N type?

HDR-100 Blank type (e.g., HDR-100-12) offers 92W max output, passes LPS, and has a narrower output adjustable range. HDR-100 N type (e.g., HDR-100-12N) offers 100W max output, is Non-LPS, and has a wider output adjustable range.

What certifications does the HDR Series have?

The HDR Series is certified to UL62368-1, UL508, TUV BS EN/EN61558-2-16, IEC62368-1, EAC TP TC 004, BSMI CNS15598-1 and BIS IS13252. HDR-150 is additionally certified to UL61010. All models comply with BS EN/EN61000-6-2 industrial immunity level and BS EN/EN61000-3-2 Class A harmonic current.

How do I choose the right HDR Series model?

Select the HDR model according to the required output power (15W to 150W), output voltage, whether LPS certification is required, and available DIN rail mounting space. Consider the SU width: HDR-15 (1SU), HDR-30 (2SU), HDR-60 (3SU), HDR-100 (4SU), HDR-150 (6SU).

Contact DAPPRA

For product selection, technical support, samples or quotation, please contact us through the channels below.

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Notice: Specifications, dimensions and model availability in this datasheet are subject to change without prior notice. Please refer to the latest DAPPRA official documentation or contact DAPPRA for the most current information. HDR Series Datasheet · Doc No. HDR-DS-001 · Rev. 1.0 · 2024-01.