TDK

DUSH Series
Uninterruptible DC Power Supplies

TDK·Lambda

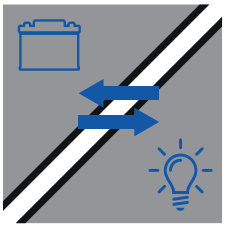
First-class reliability for mission-critical applications

DUSH Series

This uninterruptible power supply for DIN rail applications offers a high degree of safety in the event of a power failure. Thanks to its comprehensive features, our DUSH can be deployed in a multitude of applications in the fields of industry automation, plant engineering, building control systems, test and measuring technology, and information and communication technology.

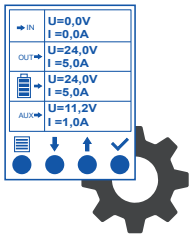
- Wide input and output voltage range of 10..60V$_{DC}$ IN and 10..58V$_{DC}$ OUT
- Decoupled load and battery voltages thanks to an integrated DC/DC converter
- Applicable with lead, nickel and lithium batteries, as well as supercap storage up to 1000Ah
- Continuous battery protection due to NTC sensor, SoC monitoring and Ri measuring
- System monitoring and control via Modbus/RTU with comprehensive settings, measuring and status parameters.
- Simple operation via colour display and push buttons or as cost efficient version with LED indication

Benefits



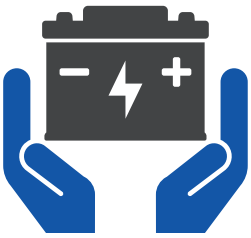
MAXIMUM FLEXIBILITY THANKS TO ISOLATION

Thanks to the integrated **DC/DC converter**, the load and battery voltages work decoupled, allowing the DUSH to set new standards in flexibility. The buffer capacity can be precisely scaled to suit any application. As an example, this allows a **24V load circuit** to be buffered using a battery voltage of **12V**. This helps to save space – and money.



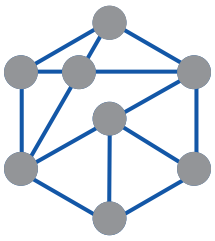
INFORMATIVE AND USER FRIENDLY

Thanks to its 1.5" **colour display**, the DUSH can be easily configured and maintained. Four **push buttons** are provided, enabling intuitive navigation of the menu structure. During operation, the current **operating parameters**, together with warnings or notes, are shown in real time. A cost-optimised version without LCD and AUX output is available for systems with a smaller form factor or difficult to access.



AVAILABILITY IS KEY

Battery **health** is the linchpin of an uninterruptible power supply. For this reason, the DUSH periodically checks its internal resistance and performs a continuous calculation of the state of charge and health of the battery. An integrated **protective circuit** prevents the battery from deep discharging in emergency power operation and thus causing irreparable damage. Thanks to an optional **temperature sensor**, the battery can be charged temperature compensated. This reduces stress and increases availability.



CAN BE CONNECTED UNIVERSALLY

With a **MODBUS/RTU** interface as standard the DUSH can be easily **connected** directly to the control level in intelligent industrial environments. Over 50 real-time status values for monitoring, enabling the early identification of status changes or even failures. Numerous **adjustable parameters** make complete remote maintenance of the system possible. With the **PowerCMC** user interface, this information can be conveniently displayed and managed.

Technical specifications

		DUSH960-1248-0M	DUSH960-1248-1M
Output voltage	*nom.*	12..48V_{DC}	
	max.	10..58V_{DC}	
Output current	*nom.*	20A	
Battery voltage	*nom.*	12..48V_{DC}	
	max.	10..58V_{DC}	
Energy storage technology		Lead, nickel, lithium, supercap	
Charge current range	*max.*	0.5..20A	
Discharge current range	*max.*	0.5..21A	
Deep discharge voltage		5..58V_{DC}	
Hold-up time		Configurable, up to deep-discharge threshold of the battery	
Battery capacity range	*max.*	1..1000Ah	
Input voltage	*nom.*	12..48V_{DC}	
	max.	10..60V_{DC}	
Input current	*max.*	20A	
Output power[4]	*max.*	960W	
Conversion efficiency[1]	*min.*	98.9%	
Power losses[4]	*max.*	10.6W	
No-load consumption[4]	*max.*	0.9W	
Service lifetime	*min.*	174,000h	
Service/Early life MTBF[2]	*min.*	210,000h	
Ambient operating temperature	*nom.*	-25..+50°C_{amb}	
	max.	-25..+70°C_{amb}	
Load regulation		±1%	
Power derating	*min.*	12W/°C_{amb} (6.67W/°F_{amb})	
Operating altitude	*nom.*	3000mASL (9842ftASL)	
	max.[3]	6000mASL (19685ftASL)	
Percental power derating	*min.*	5% per 1000m (3281ft)	
Temperature derating	*min.*	5°C per 1000m (9°F per 3281ft)	
Auxiliary voltage	*nom.*	12..48V_{DC} (unregulated)	-
Auxiliary output voltage range		5..58V_{DC}	-
Auxiliary current	*nom.*	5A	-
Local HMI		1.5" color LCD + 4 push buttons	LED indication
Remote HMI		PowerCMC	
Connectivity		Modbus/RTU + Mini USB	
Signaling &control		Two alarm relays (configurable), remote ON/OFF, battery temp. sensor	
Class of protection		III / IEC 61010-1, IEC 62368-1	
Ingress protection degree[3]		IP 20	
Radiated noise emission		Class B	
Conducted noise emission		Class B	
Width x Height x Depth		54 x 115 x 131.2mm	
Weight		500g	470g
Certifications (CB, UL, UR)		IEC/EN/UL/CSA 61010-1, 61010-2-201, 62368-1 (Ed.3)	
Designed to meet		IEC 62477-1, IEC61204-1, EN60204-1, UL508	

[1]Mains operation | [2]Telcordia SR-332 Issue 4 | [3]Not UL approved | [4]@48V_{DC}

ⓘ Unless otherwise stated, all values are specified in normal mounting position, at full load, nominal input and output voltages, 25°C ambient temperature and a run-in time of 5 minutes.

Add-ons and accessories

Temperature Sensor

Optional temperature sensor for battery monitoring and temperature compensated charging of the battery.

DTX01-0X
10kOhm NTC sensor, with plug connector, cable length 1m

DTX02-0X
10kOhm NTC sensor, with plug connector, cable length 2m

DBM Buffer Modules

In order to secure process uptime and reliability in 24V low-voltage systems, DBM buffer modules increase hold-up time or provide a reserve for peak loads.

DBM20
Buffer module, input/output 20A, electrolytic capacitors, signalling & control, screw terminals

DBM20/E
Buffer module, input/output 20A, electrolytic capacitors, signalling & control, spring terminal blocks

www.emea.lambda.tdk.com/uk/products/dbm20

DDA DC/DC Converters

Non-isolated step-down converters for creating additional DC bus voltages from a single DC input source.

DDA250N
Single output 20A at 3.3..15V, input 9..53V, DC OK LED, screw terminals

DDA325N
Dual output 14A at 3.3..24V and 8A at -3.3..-24V, input 9..40V, DC OK LEDs, screw terminals

DDA500N
Dual output 2x20A at 3.3..15V, input 9..53V, DC OK LEDs, screw terminals

www.emea.lambda.tdk.com/UK/products/dda

DRB Power Supplies

Single- or three-phase power supplies with compact dimensions and energy saving efficiencies.

DRB480-24-1
Power supply, input 100..240V_{AC}, output 24V_{DC}/20A, DC-OK, screw terminals

DRB480-48-1
Power supply, input 100..240V_{AC}, output 48V_{DC}/10A, DC-OK, screw terminals

www.emea.lambda.tdk.com/UK/products/drb

DRB480-24-3-XX
Power supply, input 3x400..500V_{AC}, output 24V_{DC}/20A, DC-OK, INHIBIT, screw or push-in terminals

DRB480-48-3-XX
Power supply, input 3x400..500V_{AC}, output 48V_{DC}/10A, DC-OK, INHIBIT, screw or push-in terminals

www.emea.lambda.tdk.com/uk/products/drb-3-phase-series

DRB960-48-3-XX
Power supply, input 3x400..500V_{AC}, output 48V_{DC}/10A, DC-OK, INHIBIT, screw or push-in terminals

www.emea.lambda.tdk.com/uk/products/drb-3-phase-series

PowerCMC
Control and monitoring center software via Modbus/RTU and USB.

Our team of experts will be happy to help you find the best power supply for your application.

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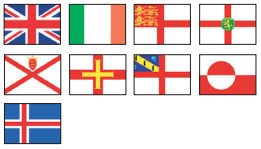

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Local Distribution

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