LDS70 Series

70 Watts

LED Lighting Power Supply

Total Power: **70** Watts
Input Voltage: 90-305 Vac
# of Outputs: Main

RoHS 2002/95/EC

Special Features

- Constant current and constant voltage operation
- Dimming operation
- Free-Air rated -No forced air necessary for cooling

Compliance

- Class 2 Outputs
- IP64 to IP67 Water Protection
- CISPR 15 / FCC Part 15 EMI Performance
- Class C Harmonics
- <0.1 W No-load power
- >0.9 Power Factor

Safety

EN 61347-2-13
UL 1310 / 8750
CSA C22.2 No 107.1
CE Mark (LVD)

Product Descriptions

Emerson Network Power LDS70 LED lighting power supplies provide both constant-current and constant-voltage modes, enabling customers to simplify inventory management. Constant-current mode features programmable current levels; constant-voltage mode has no-load to full-load operation. Current levels can be preset by the system designer or adjusted in application to perform dimming functions. The narrow, low-profile form factor of the LDS70 series allows customers to reduce light fixture size or locate them in small areas of their system. Both 12 V and 58 V models have no minimum load requirement and are comprehensively protected against short-circuit, overvoltage and over temperature situations.

An IP67 rating makes the Emerson Network Power LDS70 series an excellent choice for use in applications where the ingress of dust or moisture is a concern. The ability of the product to operate from minus 40 to 60 degrees Celsius makes the family ideal for both indoor and outdoor use. The LDS70 series is pre-certified with critical safety specifications and regulatory requirements – including EN 61347, UL 8750, which are specific to LED related applications, and CSA C22.2 No. 107.1 and CE LVD directives - to provide a rapid, cost-effective power solution off-the-shelf, which enables a significant improvement in design-to-revenue timelines.

The Emerson Network Power LDS70 series accepts a wide input voltage range of 100 to 240 Vac (U models) or 120 to 277 Vac (H models) and is equipped with active power factor correction rated at 0.9 typical to minimize input harmonic current distortion.

ARTESYN™
EMBEDDED TECHNOLOGIES

Model Numbers

Standard	Output Voltage	Maximum Load	Current Adjust	Dimming Interface	IP Rating
LDS70-12-U01	12.0Vdc	5.0A	Dip Switch	2-Level	IP64
LDS70-58-U01	58.0Vdc	1.2A	Dip Switch	2-Level	IP64
LDS70-58-H03	58.0Vdc	1.2A	None	0 – 10V	IP67

Options

None

Electrical Specifications

Absolute Maximum Ratings

Stress in excess of those listed in the "Absolute Maximum Ratings" may cause permanent damage to the power supply. These are stress ratings only and functional operation of the unit is not implied at these or any other conditions above those given in the operational sections of this TRN. Exposure to any absolute maximum rated condition for extended periods may adversely affect the power supply's reliability.

Table 1. Absolute Maximum Ratings:

Parameter	Model	Symbol	Min	Typ	Max	Unit
Input Voltage:						
AC continuous operation	LDS70-12-U01 LDS70-58-U01 LDS70-58-H03	$V_{IN,AC}$	90 90 100	- - -	264 264 305	Vac
Maximum Output Power	LDS70-12-U01 LDS70-58-U01 LDS70-58-H03	$P_{O,max}$	- - -	- - -	60 70 70	W
Isolation Voltage						
Input to outputs	All models		-	-	3000	Vac
Input to safety ground	All models		-	-	1500	Vac
Outputs to safety ground	All models		-	-	500	Vac
Ambient Operating Temperature	All models	T_A	-40	-	+80	ºC
Storage Temperature	All models	T_{STG}	-40	-	+100	ºC
Humidity (non-condensing)						
Operating	All models		20	-	90	%
Non-operating	All models		10	-	95	%
Altitude						
Operating	All models		-	-	10,000	feet
Non-operating	All models		-	-	50,000	feet

Input Specifications

Table 2. Input Specifications:

Parameter		Conditions	Symbol	Min	Typ	Max	Unit
Operating Input Voltage, AC			V_{IAC}	90 100	115/230 115/230	264 305	Vac_{RMS}
Input Vac Source Frequency			f_{IAC}	47	50/60	63	Hz
Maximum Input Current ($I_O = I_{O,max}$, $I_{VSB} = I_{VSB,Max}$)		$V_{IAC} = 90V_{AC}$ $V_{IAC} = 100V_{AC}$	$I_{I,max}$	- -	- -	1.0 1.0	A_{RMS}
No Load Input Current (V_O On, I_O = 0A)		$V_{IAC} = 90V_{AC}$ $V_{IAC} = 100V_{AC}$	I_{I,no_load}	- -	- -	50 50	mA_{RMS}
Harmonic Line Currents		All	THD	Per IEC1000-3-2			
Power Factor		$I_O = I_{O,half}/I_{O,max}$ $V_{IAC} = 115/230V_{AC}$		0.9		-	
Startup Surge Current (Inrush) @ 25°C		$V_{IAC} = 230V_{AC}$		-	-	50	A_{PK}
Input Fuse	LDS70-12-U01 LDS70-58-U01	Internal, L and N 2.5A, 250V		-	-	2.5	A
	LDS70-58-H03	Internal, L and N 2.5A, 300V					
Isolation – Input to Output				-	3000	-	Vac
Isolation – Input to Chassis				-	1500	-	Vac
Leakage Current to earth ground		$V_{IAC} = 264V_{AC}$ f_{IAC} = 50/60 Hz		-	-	0.75	mA
PFC Switching Frequency	LDS70-12-U01	All	$f_{SW,PFC}$	90		110	KHz
	LDS70-58-U01 LDS70-58-H03			55		75	
Operating Efficiency @ 25°C		$I_O = I_{O,max}$ $V_{IAC} = 115V_{AC}$ $V_{IAC} = 230V_{AC}$	η	87 88	- -	- -	% %
System Stability: Phase Margin Gain Margin				45 10	-	-	Ø dB

Output Specifications

Table 3. Output Specifications:

Parameter		Condition	Symbol	Min	Typ	Max	Unit
Output Regulation	LDS70-12-U01	Inclusive of set-point, temperature change, warm-up drift and dynamic load	V_O	11.76	12	12.24	V
	LDS70-58-U01 LDS70-58-H03			56.84	58	59.1	
Output Ripple, pk-pk	LDS70-12-U01	Measure with a 0.1µF ceramic capacitor in parallel with a 10µF tantalum capacitor, 0 to 20MHz bandwidth	V_O	-	-	180	mV_{PK-PK}
	LDS70-58-U01 LDS70-58-H03			-	-	870	
Output Current	LDS70-12-U01		I_O	0	-	5	A
	LDS70-58-U01 LDS70-58-H03		I_O	0	-	1.2	
Ripple Switching Frequency	LDS70-12-U01			75		90	KHz
	LDS70-58-U01 LDS70-58-H03		$f_{SW,DC-DC}$	20		35	
V_O Load Capacitance		Start up	-	0	-	330	µF/A
V_O Dynamic Response Peak Deviation Settling Time		50% load change, slew rate = 1A/µs	$\pm\%V_O$ T_s	- 0.5	- -	3 -	% mSec
V_O Long Term Stability Max change over 24 hours		After thermal equilibrium (30 mins)	$\pm\%V_O$			1	%

LDS70-12-U01 Performance Curves

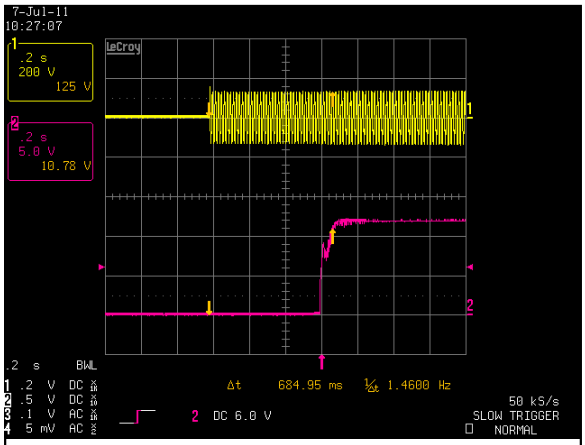


Figure 1: LDS70-12-U01 Turn-on delay via AC mains – Vin = 90Vac
Full Load: Vo = 12V, Io = 4.99A
Ch 1: AC Mains Ch 2: Vo

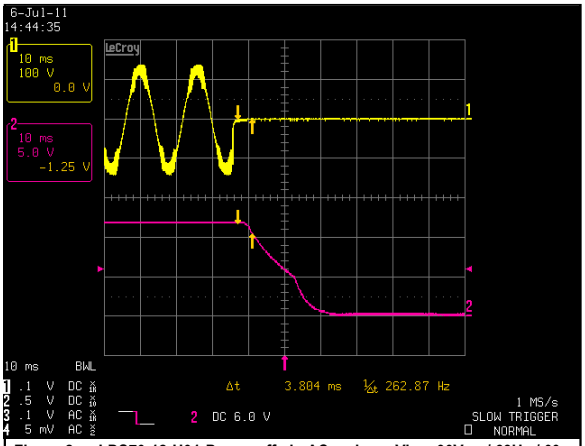


Figure 2: LDS70-12-U01 Power-off via AC mains – Vin = 90Vac / 63Hz / 0°
Full Load: Vo = 12V, Io = 4.99A,
Ch 1: AC Mains Ch 2: Vo

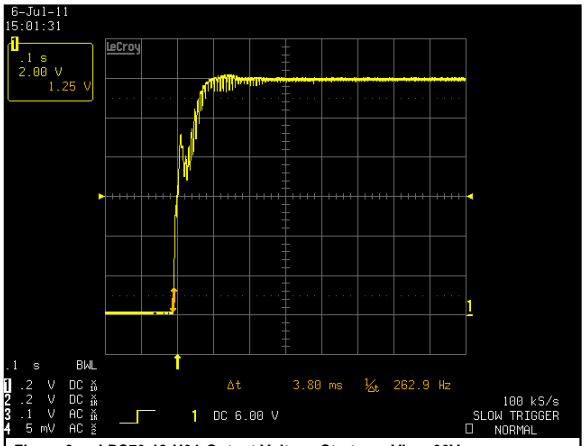


Figure 3: LDS70-12-U01 Output Voltage Startup – Vin = 90Vac
Full Load: Vo = 12V, Io = 4.99A,
Ch 1: Vo

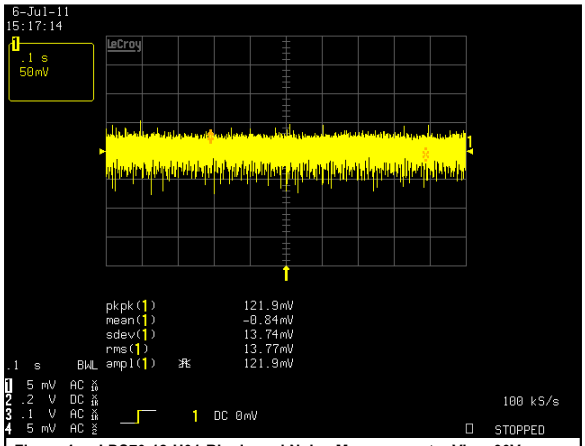


Figure 4: LDS70-12-U01 Ripple and Noise Measurement – Vin = 90Vac
Full Load: Vo = 12V, Io = 4.99A,
Ch 1: Vo

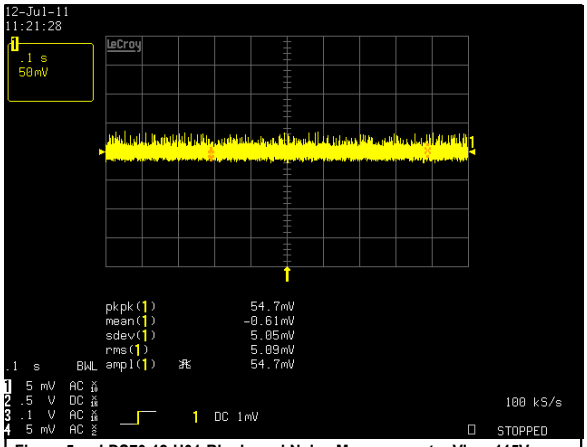


Figure 5: LDS70-12-U01 Ripple and Noise Measurement – Vin = 115Vac
Full Load: Vo = 4V, Io = 4.99A,
Ch 1: Vo

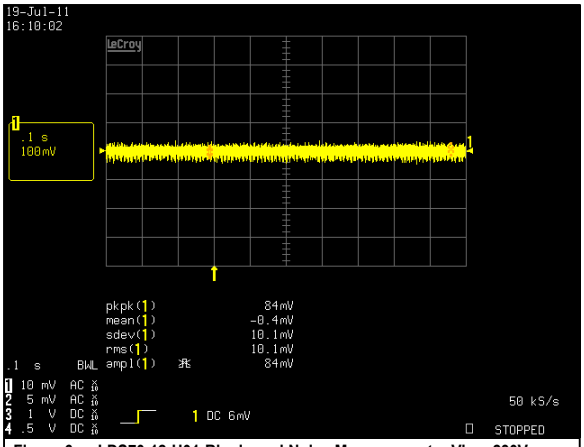


Figure 6: LDS70-12-U01 Ripple and Noise Measurement – Vin = 230Vac
Full Load: Vo = 4V, Io = 4.99A,
Ch 1: Vo

LDS70-12-U01 Performance Curves

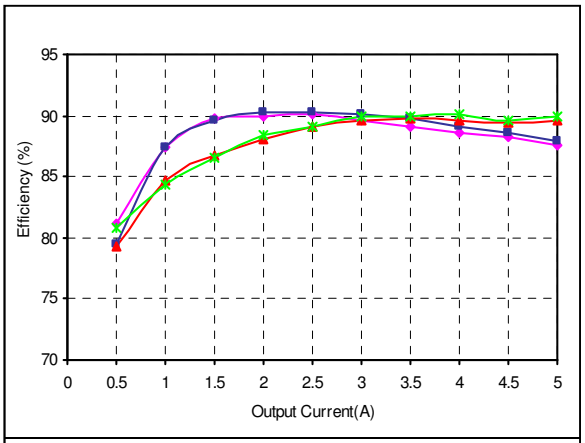


Figure 7: LDS70-12-U01 Efficiency Curves @ 25 degC – Vo = 12V
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Io = 10% increment to 5A

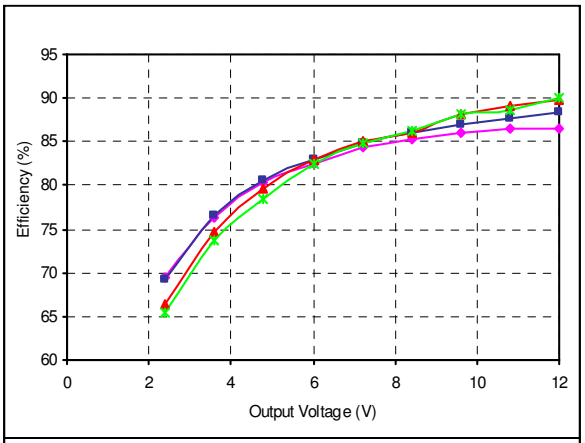


Figure 8: LDS70-12-U01 Efficiency VS Output Voltage – Io = 5A
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Vo = 10% increment to 12V

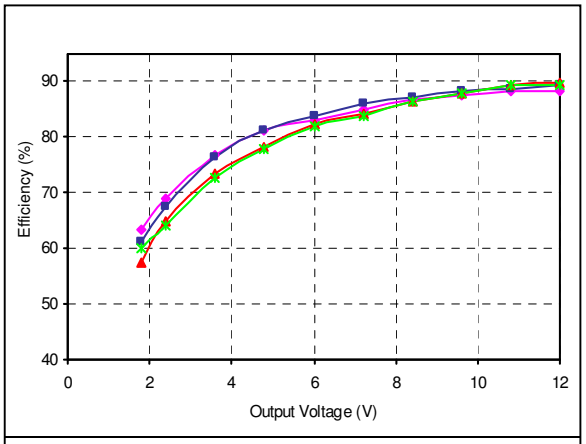


Figure 9: LDS70-12-U01 Efficiency VS Output Voltage – Io = 3.75A
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Vo = 10% increment to 12V

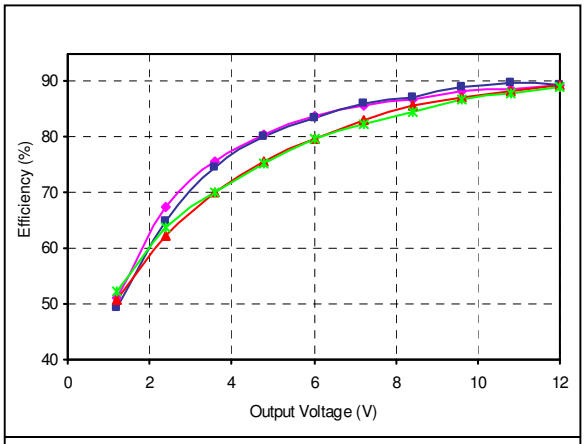


Figure 10: LDS70-12-U01 Efficiency VS Output Voltage – Io = 2.5A
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Vo = 10% increment to 12V

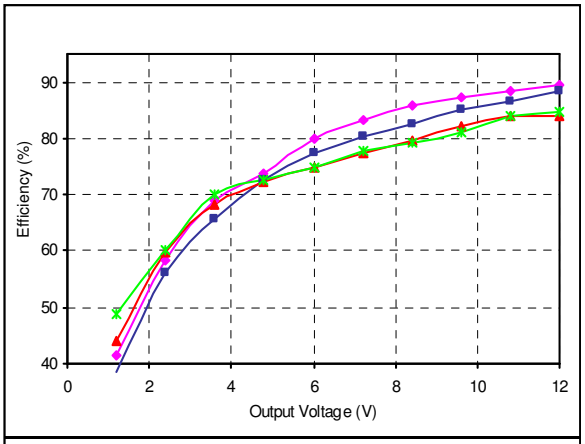


Figure 11: LDS70-12-U01 Efficiency VS Output Voltage – Io = 1.25A
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Vo = 10% increment to 12V

LDS70-58-U01 Performance Curves

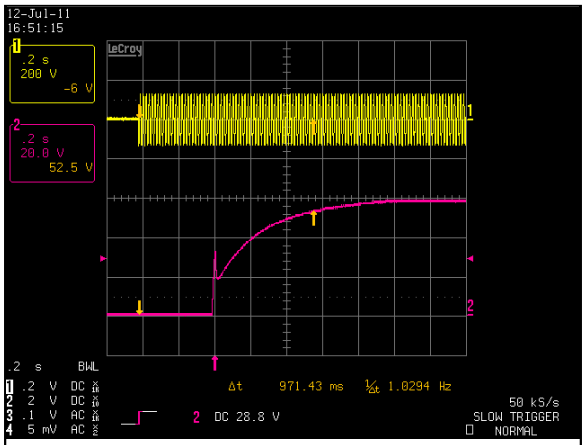


Figure 12: LDS70-58-U01 Turn-on delay via AC mains – Vin = 90Vac
Full Load: Vo = 58V, Io = 1.2A
Ch 1: AC Mains Ch 2: Vo

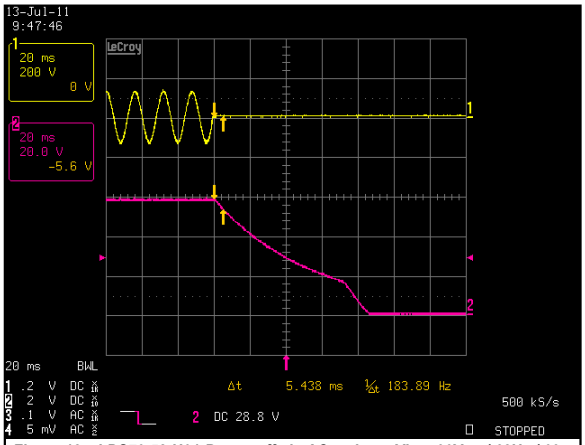


Figure 13: LDS70-58-U01 Power-off via AC mains – Vin = 90Vac / 63Hz / 0°
Full Load: Vo = 58V, Io = 1.2A,
Ch 1: AC Mains Ch 2: Vo

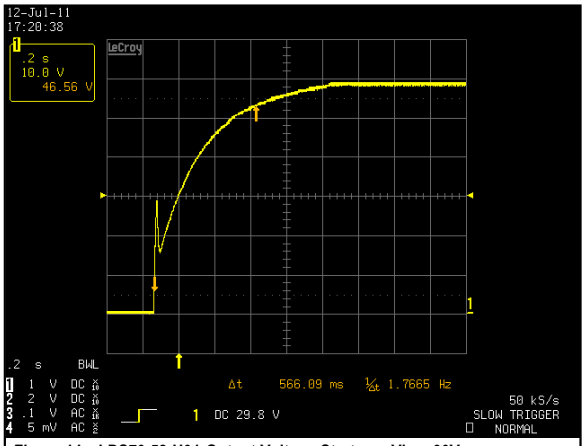


Figure 14: LDS70-58-U01 Output Voltage Startup – Vin = 90Vac
Full Load: Vo = 58V, Io = 1.2A,
Ch 1: Vo

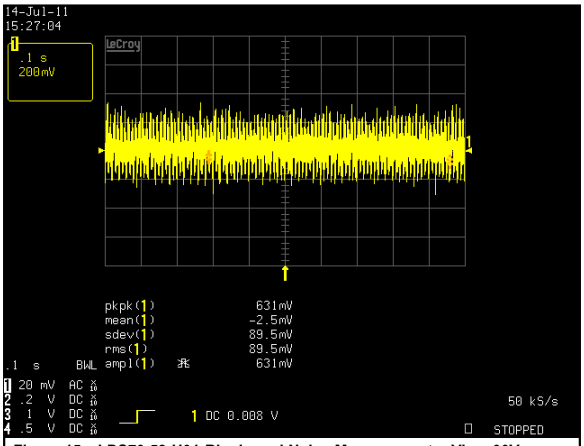


Figure 15: LDS70-58-U01 Ripple and Noise Measurement – Vin = 90Vac
Full Load: Vo = 58V, Io = 1.2A,
Ch 1: Vo

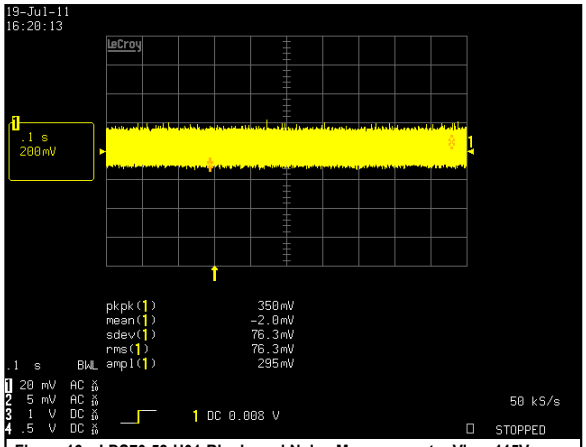


Figure 16: LDS70-58-U01 Ripple and Noise Measurement – Vin = 115Vac
Full Load: Vo = 42V, Io = 1.2A,
Ch 1: Vo

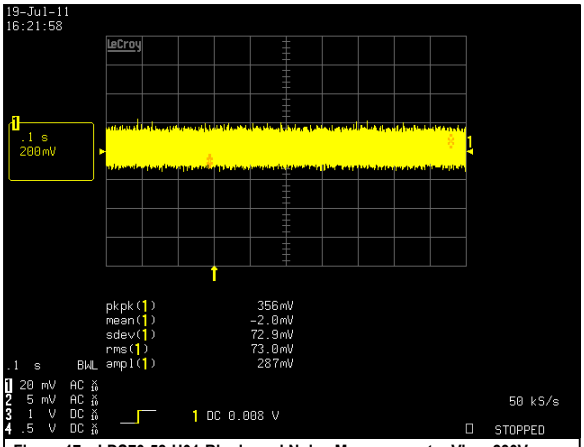


Figure 17: LDS70-58-U01 Ripple and Noise Measurement – Vin = 230Vac
Full Load: Vo 42, Io = 1.2A,
Ch 1: Vo

LDS70-58-U01 Performance Curves

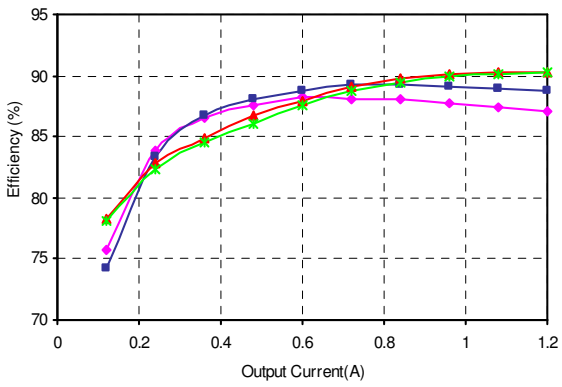


Figure 18: LDS70-58-U01 Efficiency Curves @ 25 degC – Vo = 58V
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Io = 10% increment to 1.2A

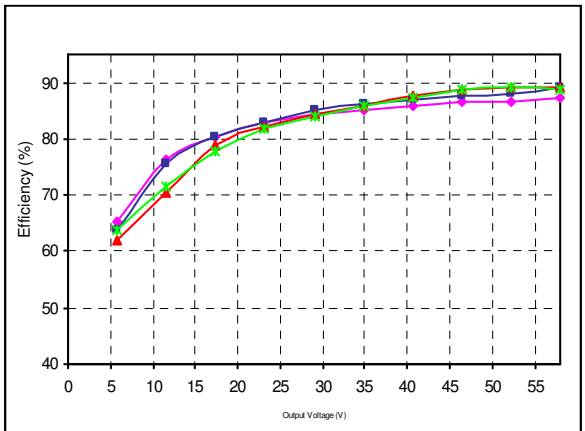


Figure 19: LDS70-58-U01 Efficiency VS Output Voltage – Io = 1.2A
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Vo = 10% increment to 58V

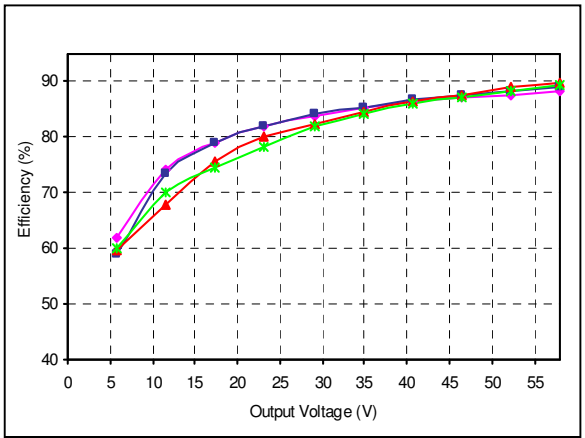


Figure 20: LDS70-58-U01 Efficiency VS Output Voltage – Io = 0.9A
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Vo = 10% increment to 58V

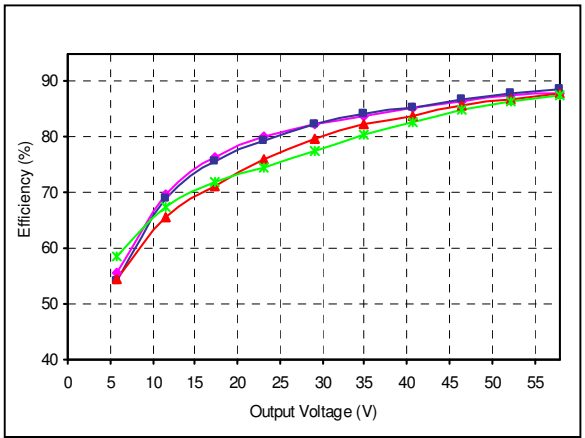


Figure 21: LDS70-58-U01 Efficiency VS Output Voltage – Io = 0.6A
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Vo = 10% increment to 58V

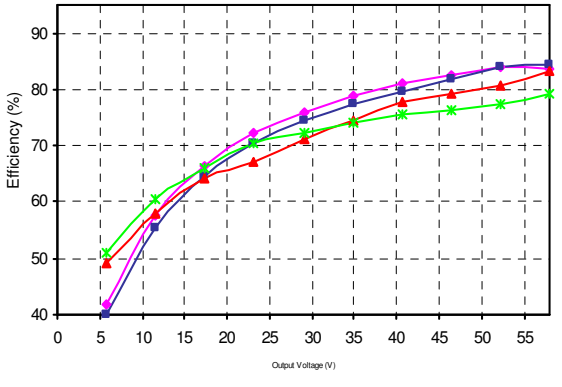


Figure 22: LDS70-58-U01 Efficiency VS Output Voltage – Io = 0.3A
90 Vac 115 Vac 230 Vac 264 Vac
Loading: Vo = 10% increment to 58V

LDS70-58-H03 Performance Curves

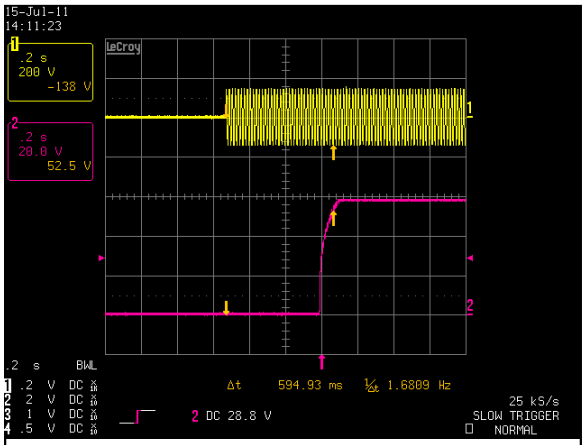


Figure 23: LDS70-58-H03 Turn-on delay via AC mains – Vin = 100Vac
Full Load: Vo = 58V, Io = 1.2A
Ch 1: AC Mains Ch 2: Vo

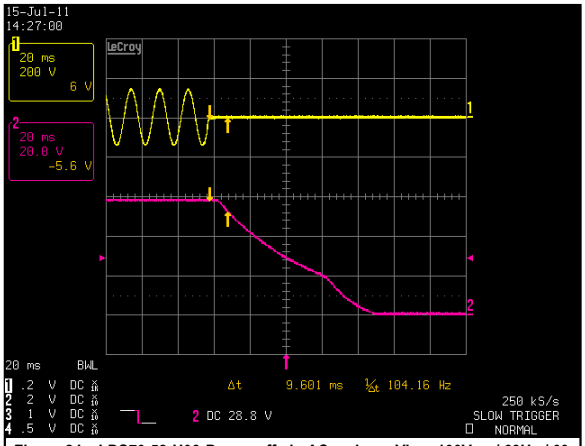


Figure 24: LDS70-58-H03 Power-off via AC mains – Vin = 100Vac / 63Hz / 0°
Full Load: Vo = 58V, Io = 1.2A,
Ch 1: AC Mains Ch 2: Vo

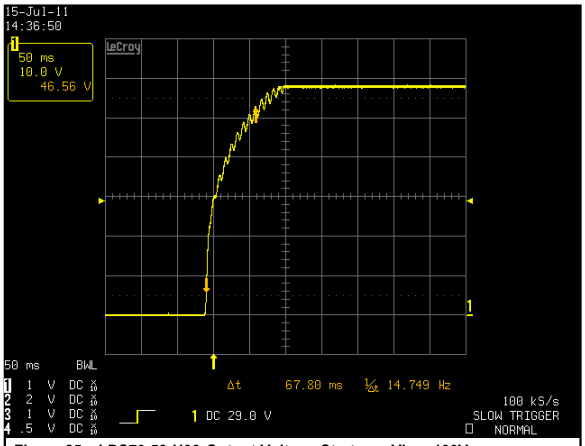


Figure 25: LDS70-58-H03 Output Voltage Startup – Vin = 100Vac
Full Load: Vo = 58V, Io = 1.2A,
Ch 1: Vo

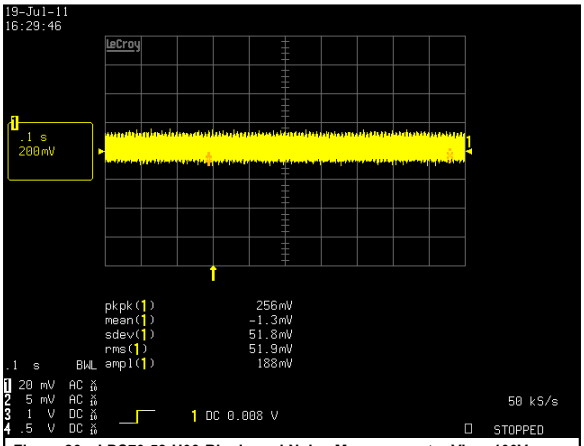


Figure 26: LDS70-58-H03 Ripple and Noise Measurement – Vin = 100Vac
Full Load: Vo = 58V, Io = 1.2A,
Ch 1: Vo

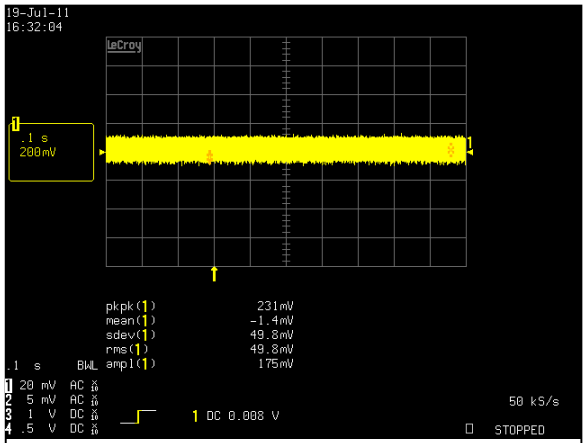


Figure 27: LDS70-58-H03 Ripple and Noise Measurement – Vin = 115Vac
Full Load: Vo = 42V, Io = 1.2A,
Ch 1: Vo

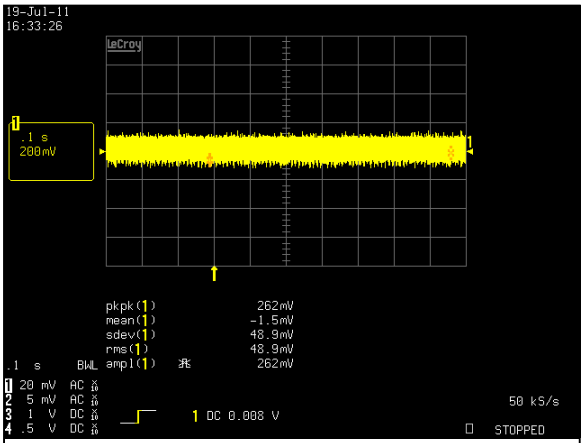


Figure 28: LDS70-58-H03 Ripple and Noise Measurement – Vin = 230Vac
Full Load: Vo = 42V, Io = 1.2A,
Ch 1: Vo

LDS70-58-H03 Performance Curves

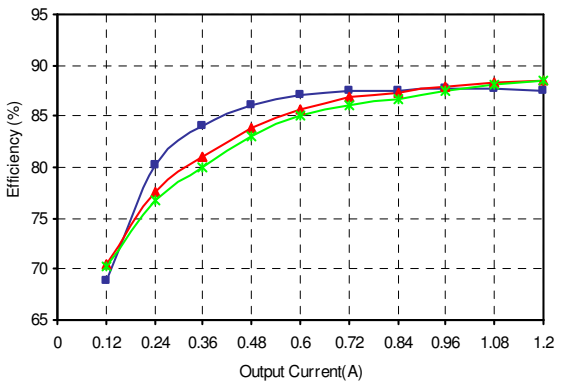


Figure 29: LDS70-58-H03 Efficiency Curves @ 25 degC – Vo = 58V
115 Vac 230 Vac 277 Vac
Loading: Io = 10% increment to 1.2A

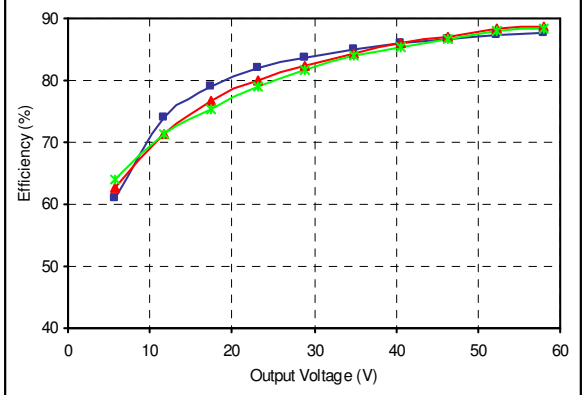


Figure 30: LDS70-58-H03 Efficiency VS Output Voltage – Io = 1.2A
115 Vac 230 Vac 277 Vac
Loading: Vo = 10% increment to 58V

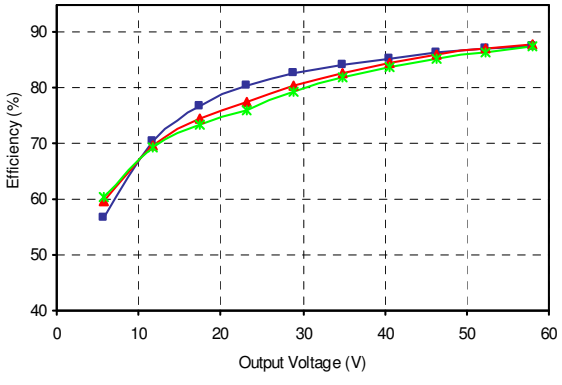


Figure 31: LDS70-58-H03 Efficiency VS Output Voltage – Io = 0.9A
115 Vac 230 Vac 277 Vac
Loading: Vo = 10% increment to 58V

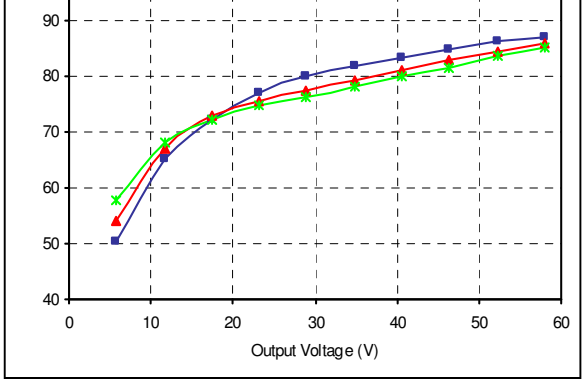


Figure 32: LDS70-58-H03 Efficiency VS Output Voltage – Io = 0.6A
115 Vac 230 Vac 277 Vac
Loading: Vo = 10% increment to 58V

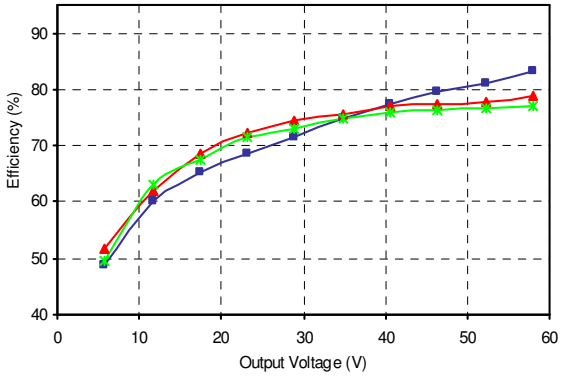


Figure 33: LDS70-58-H03 Efficiency VS Output Voltage – Io = 0.3A
115 Vac 230 Vac 277 Vac
Loading: Vo = 10% increment to 58V

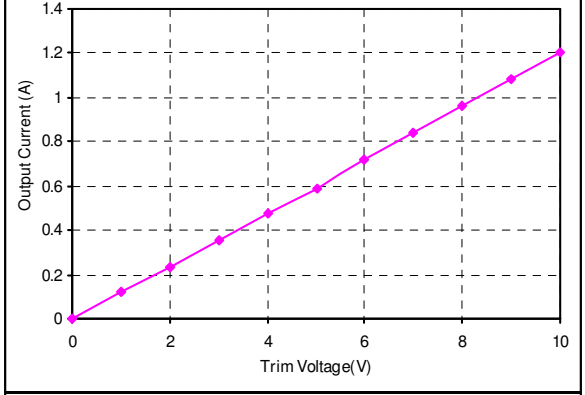


Figure 34: LDS70-58-H03 Output Current VS Trim Voltage – Vo = 42V
Vin = 230Vac
Loading: Vtrim = 10% increment to 10V

Protection Function Specification

Input Fusing

LDS70-58-Uxx and LDS70-12-Uxx series are equipped with an internal non user serviceable 2A5/250V rating, type 392 in both the L1 and L2 lines input.

LDS70-58-H03 is equipped with an internal non user serviceable 2A5/300V rating, type 392 in both the L1 and L2 lines input.

Over Voltage Protection (OVP)

The power supply latches off during output overvoltage and under voltage with the AC line recycled to reset the latch.

Model	Parameter	Min	Nom	Max	Unit
OVP LDS70-12-U01	V_O Output Overvoltage	13.20	/	16.20	V
LDS70-58-U01 LDS70-58-H03	V_O Output Overvoltage	59.75	/	63.22	V

Over Current Protection (OCP)

LDS70 series includes internal current limit circuitry to prevent damage in the event of overload or short circuit. Recovery is automatic when the overload is removed.

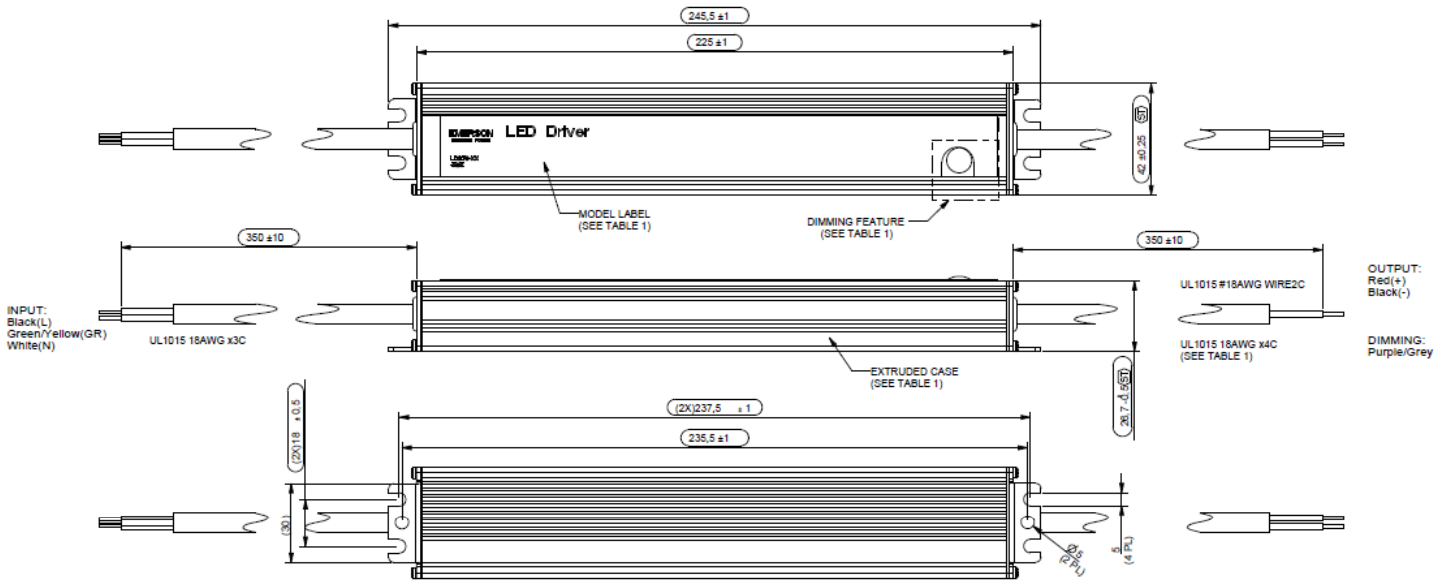
Module	Parameter	Min	Nom	Max	Unit
LDS70-12-U01	V_O Output Overcurrent	/	/	5.25	A
LDS70-58-U01 LDS70-58-H03	V_O Output Overcurrent	/	/	1.26	A

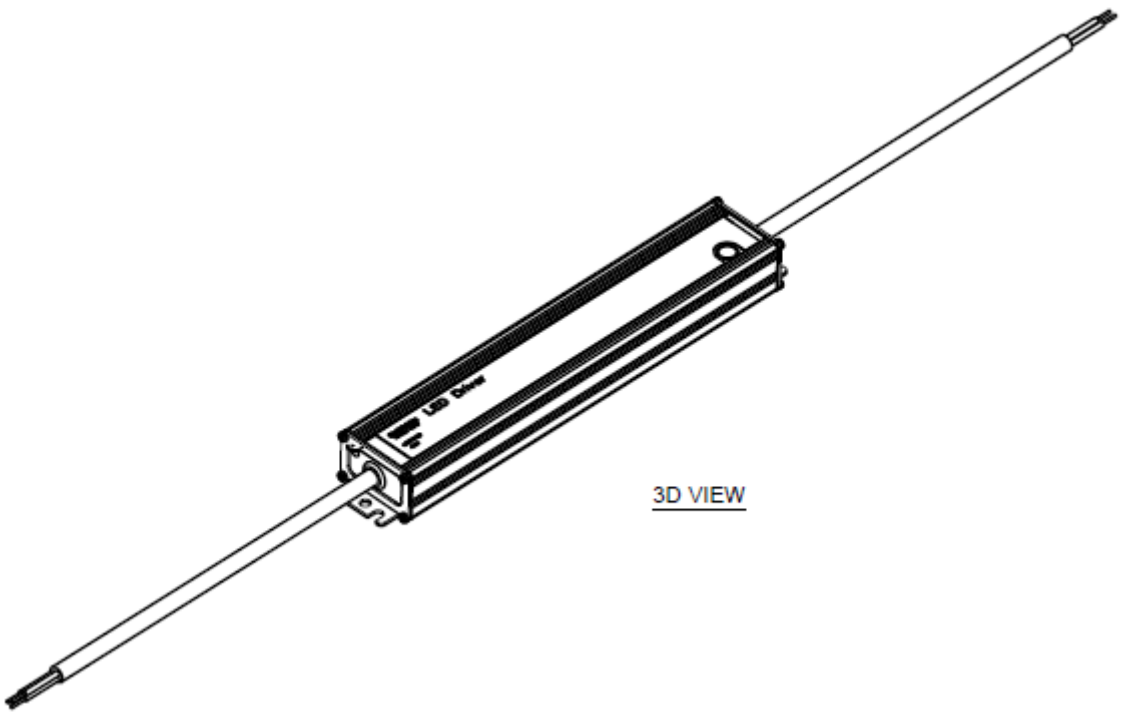
Short Circuit Protection (SCP)

The LDS70 power supply will withstand a continuous short circuit with no permanent damage, applied to its main output during start-up or while running. A short is defined as impedance less than 0.05 ohms. The PSU should be at bounce and recover after the short has been removed.

Mechanical Specifications

Mechanical Outlines





3D VIEW

Cable Definitions

AC Input Cable: 3 Wire

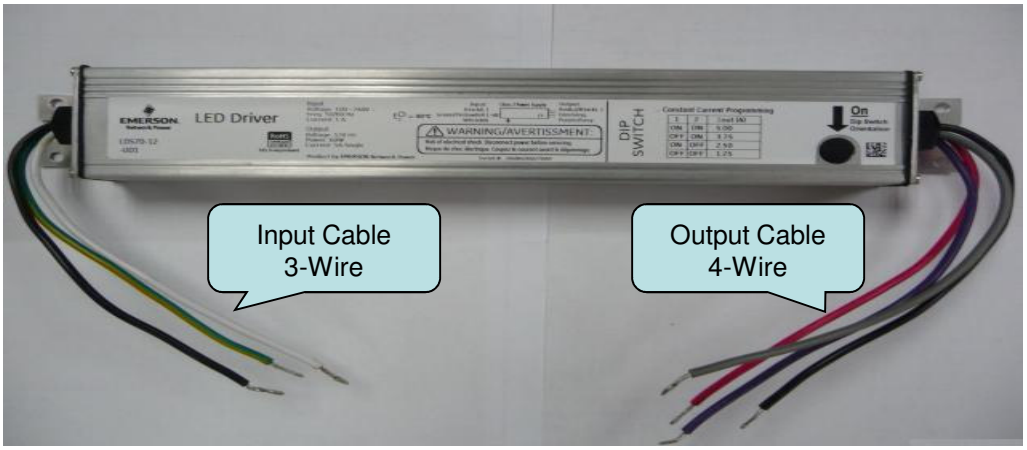
Cable 1 – L
Cable 2 – N
Cable 3 – Earth Ground

LDS70-12-U01 / LDS70-58-U01 / LDS70-58-H03		
Function	Wire Color	Wire Gauge
L	Black	18AWG
N	White	18AWG
Earth Ground	Green / Yellow	18AWG

Output Cable: 4 Wire

Cable 1 – DC Output - Positive
Cable 2 – DC Output - Return
Cable 3 – Dimming - Purple
Cable 4 – Dimming - Grey

LDS70-12-U01 / LDS70-58-U01 / LDS70-58-H03		
Function	Wire Color	Wire Gauge
DC Output - Positive	Red	18AWG
DC Output - Return	Black	18AWG
Dimming	Purple	18AWG
Dimming	Grey	18AWG



Weight

The LDS70 series weight is 0.37kg maximum.

Environmental Specifications

EMC Immunity

LDS70 series power supply is designed to meet the following EMC immunity specifications:

Table 4. Environmental Specifications:

Document	Description
FCC Docket No. 20780 Part 15 Subpart J Class A/ EN55022, Level A	Conducted and Radiated EMI Limits
EN61000-3-2	Harmonics Compliance Class C
EN61000-3-3	Voltage Fluctuations
IEC/EN 61000-4-2, Edition 1.2, 2001-04	Electromagnetic Compatibility (EMC) - Testing and measurement techniques – ESD up to 4 kv contact, 8kv discharge
IEC/EN 61000-4-3, 2002, Amendment 1, 2002-08	Electromagnetic Compatibility (EMC) - Testing and measurement techniques, Radiated, radio-frequency, electromagnetic field immunity test
IEC/EN 61000-4-4, 1995, Amendment 2, 2001-07	Electromagnetic Compatibility (EMC) - Testing and measurement techniques, Electrical Fast Transient/Burst Immunity Test. 2.6KV for AC power port, 1.0KV for DC ports, I/O and signal ports performance Criteria A
IEC/EN 61000-4-5, Edition 1.1, 2001-04	Electromagnetic Compatibility (EMC) - Testing and measurement techniques – 2.6KV common mode and 1.3KV differential mode for AC ports and 0.5kV differential mode for DC power, I/O and signal ports, performance criteria A.
EN61000-4-6	Radio frequency common mode, Levels 3V (rms) Modulated AM 80%. 1kHz, 150ohm source imp
EN61000-4-8	Power Frequency Magnetic Immunity, 1 A/m
IEC/EN 61000-4-11, Edition 1.1, 2001-04	Electromagnetic Compatibility (EMC) - Testing and measurement techniques : Voltage Dips and Interruptions: 30% reduction for 500ms-Criteria B>95% reduction for 10mS, Criteria A, >95% reduction for 5000mS, Criteria C
EN55024:1998	Information Technology Equipment-Immunity Characteristics, Limits and Method of Measurements

Safety Certifications

The LDS70 series power supply is intended for inclusion in other equipment and the installer must ensure that it is in compliance with all the requirements of the end application. This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.

Table 7. Safety Certifications for LDS70 series power supply system

Document	File #	Description
UL 1310		Standard for Class 2 power units.
CSA 22.2 No. 223-M91		Power supply with Extra-Low-Voltage Class 2 outputs. note: for LDS70-12-XXX only
CSA 22.2 No. 107-1		Standard for general use power supply. note: for LDS70-58-XXX only
EN61347-12-3		Lamp control gear - Part 2-13: Particular requirements for d.c. or a.c. (Edit 1.0 or latest)
UL60950 -1		Safety of information Technology Equipment, including electrical business equipment, including requirement for Limited Power Sources.
CSA 22.2 No. 60950-1		Safety of information Technology Equipment, including electrical Business equipment.
CB Certificate and Report	SG-LE-00140 for LDS70-58-XXX SG-LE-00107M1for LDS70-12-XXX	(All CENELEC Countries)
CCC Approval		China Requirements
CE mark LVD	68.140.0.008.01for LDS70-58-XXX	European Community Safety (certified to EN60950, A11 Nov. 26 2003) investigated and marketed by TUV.
UL 48		Edition 14 (or latest), Standard for Electric Signs

EMI Emissions

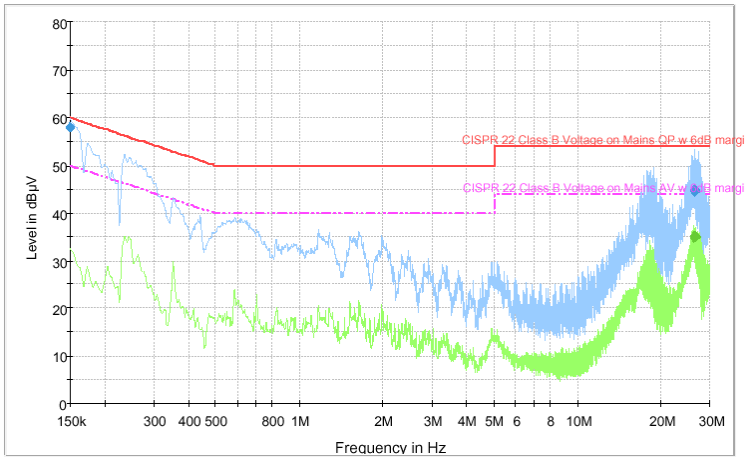
The LDS70 series has been designed to comply with the Class B limits of EMI requirements of EN55022

(FCC Part 15) and CISPR 22 (EN55022) for emissions and relevant sections of EN61000 (IEC 61000) for immunity.

The unit is enclosed inside a metal box, tested at 60W(LDS70-12-XXX)/70W(LDS70-58-XXX) using resistive load without cooling fan.

Conducted Emissions

The applicable standard for conducted emissions is EN55022 (FCC Part 15). Conducted noise can appear as both differential mode and common mode noise currents. Differential mode noise is measured between the two input lines, with the major components occurring at the supply fundamental switching frequency and its harmonics. Common mode noise, a contributor to both radiated emissions and input conducted emissions, is measured between the input lines and system ground and can be broadband in nature.



The LDS70 power supplies have internal EMI filters to ensure the convertors' conducted EMI levels comply with EN55022 (FCC Part 15) Class B and EN55022 (CISPR 22) Class B limits. The EMI measurements are performed with resistive loads at maximum rated loading.

Sample of EN55022 Conducted EMI Measurement at 120Vac input

Note: Red Line refers to Emerson Quasi Peak margin, which is 6dB below the CISPR international limit. Pink Line refers to the Emerson Average margin, which is 6dB below the CISPR international limit.

Conducted Emissions

Table 6. Conducted EMI emission specifications of the LDS70 series

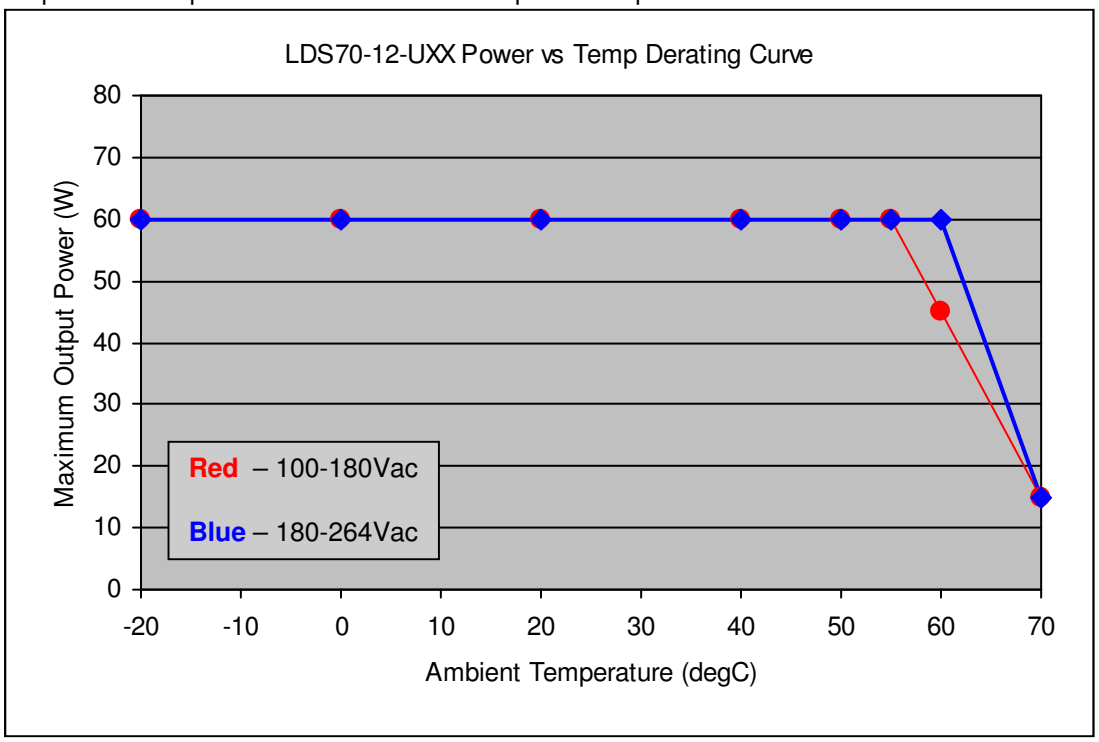
Parameter	Model	Symbol	Min	Typ	Max	Unit
FCC Part 15, class B	All	Margin	-	-	6	dB
CISPR 22 (EN55022) class B	All	Margin	-	-	6	dB

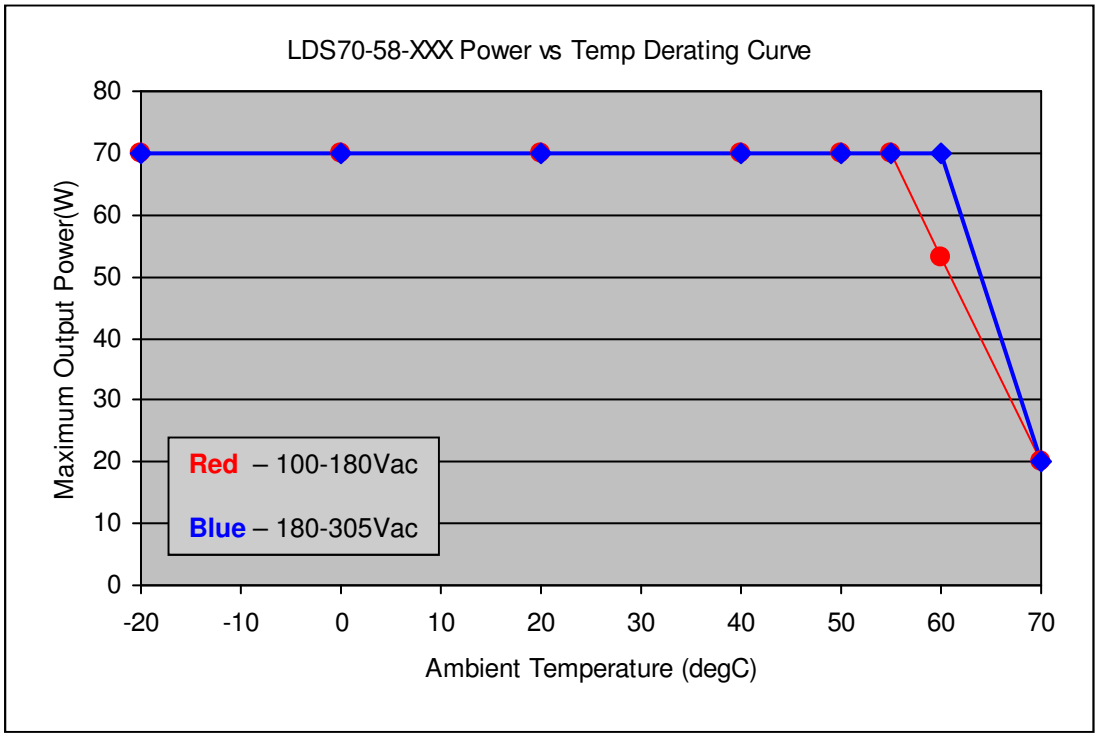
Radiated Emissions

Unlike conducted EMI, radiated EMI performance in a system environment may differ drastically from that in a stand-alone power supply. The shielding effect provided by the system enclosure may bring the EMI level from Class A to Class B. It is thus recommended that radiated EMI be evaluated in a system environment. The applicable standard is EN55022 Class A (FCC Part 15). Testing ac-dc convertors as a stand-alone component to the exact requirements of EN55022 can be difficult, because the standard calls for 1m leads to be attached to the input and outputs and aligned such as to maximize the disturbance. In such a set-up, it is possible to form a perfect dipole antenna that very few ac-dc convertors could pass. However, the standard also states that 'an attempt should be made to maximize the disturbance consistent with the typical application by varying the configuration of the test sample.

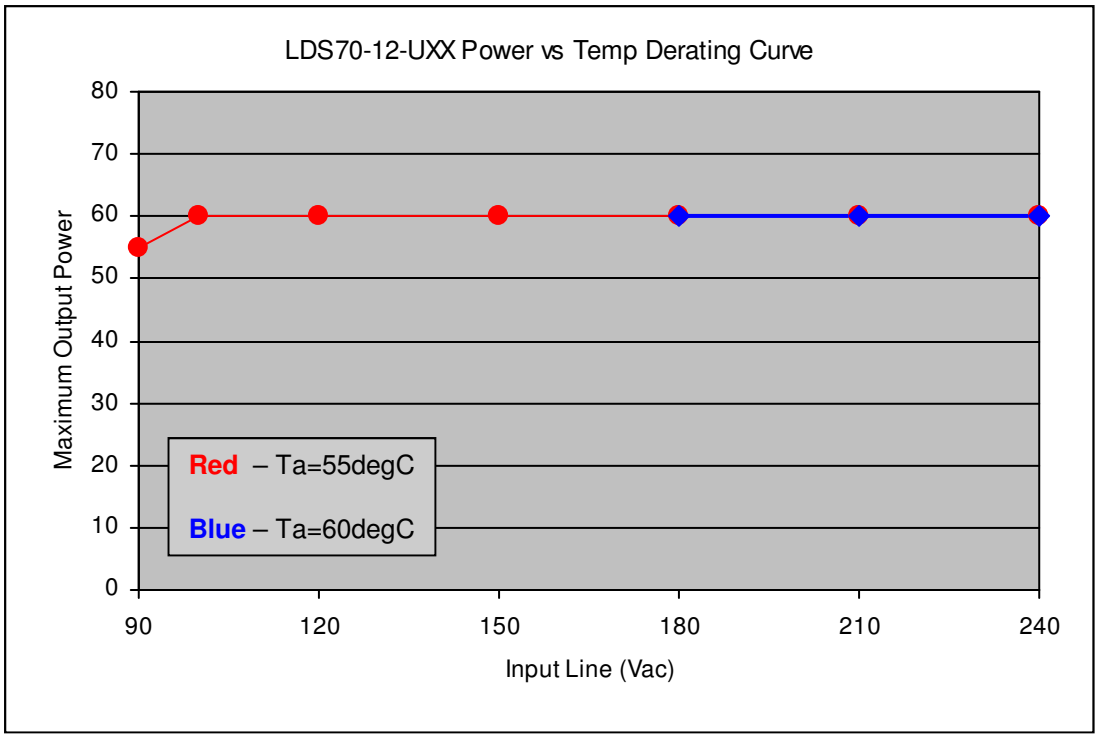
Power VS Temp Derating Curves

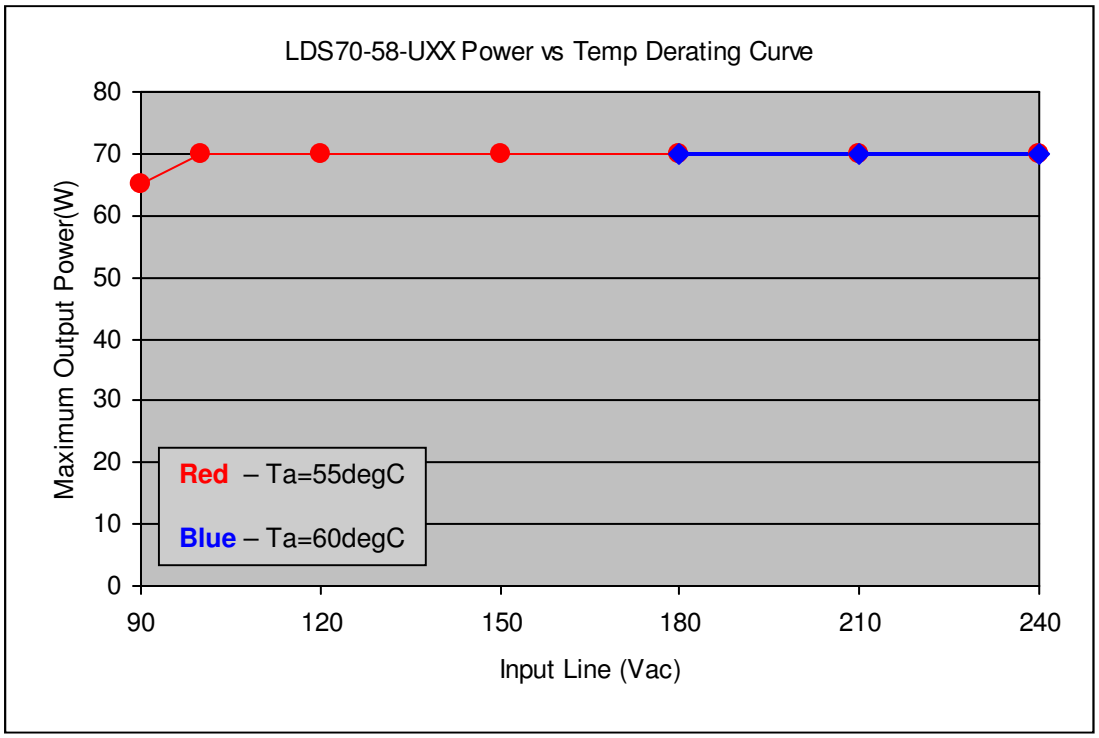
LDS70 series can operate up to a maximum ambient temperature of 80℃ with derating. Power derating starts when ambient reaches 55℃ (100-180Vac) or 60℃ (180-305Vac). When ambient temperature drops back down to 55℃ (100-180Vac) or 60℃ (180-305Vac), LDS70 series will able to deliver full rated power again. See tables below for nominal output current / power limits at different temperature operation.



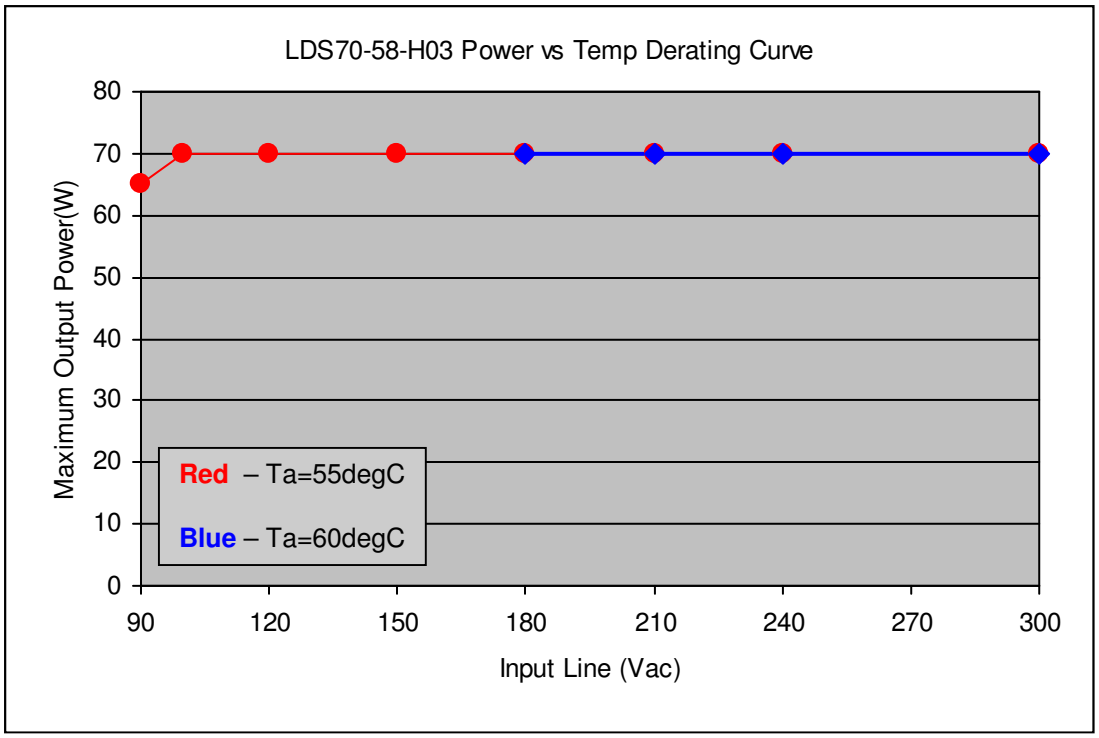


Power VS Input Line Derating Curves





Power VS Input Line Derating Curves



Power and Control Signal Descriptions

AC Input Cable

This connector supplies the AC Mains to the LDS70 power supply.

Cable 1	- L	(Black)
Cable 2	- N	(White)
Cable 3	- Earth Ground	(Yellow/Green)

Output Cable – Main Output

The two pins provide the main output for the LDS70. The + Main Output (V_O) and the Main Output Return pins are the positive and negative rails, respectively of the V_O main output of the LDS70 power supply. The Main Output (V_O) is electrically isolated from the power supply chassis.

Cable 1	- DC Output – Positive	Cable 3	-Dimming – Purple
Cable 2	- DC Output – Return	Cable 4	-Dimming – Grey

Output Cable - Control Signals

The LDS70 series contains DIP switch and dimming interface control signal which can change level of output current. The unit will support a constant current mode of operation with tolerance of +/-5% around a default . The constant current mode will be supported to a voltage level of approx 50% of rated voltage. The output current shall be adjustable by the methods described below.

DIP Switch

LDS70-12-U01

SW1	SW2	% of Rated Current	Current (mA)
0	0	25%	1250
0	1	50%	2500
1	0	75%	3750
1	1	100%	5000

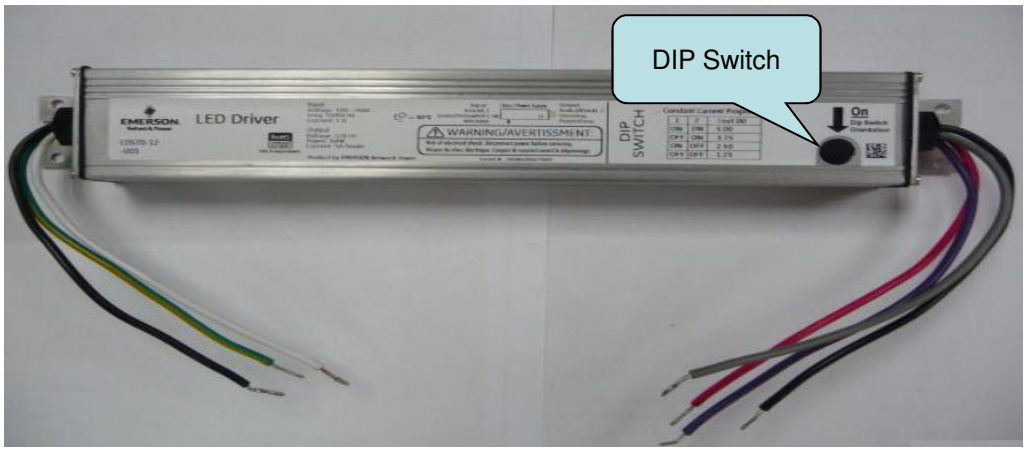
LDS70-58-U01

SW1	SW2	% of Rated Current	Current (mA)
0	0	25%	300
0	1	50%	600
1	0	75%	900
1	1	100%	1200

External Switch between Purple & Grey Wires

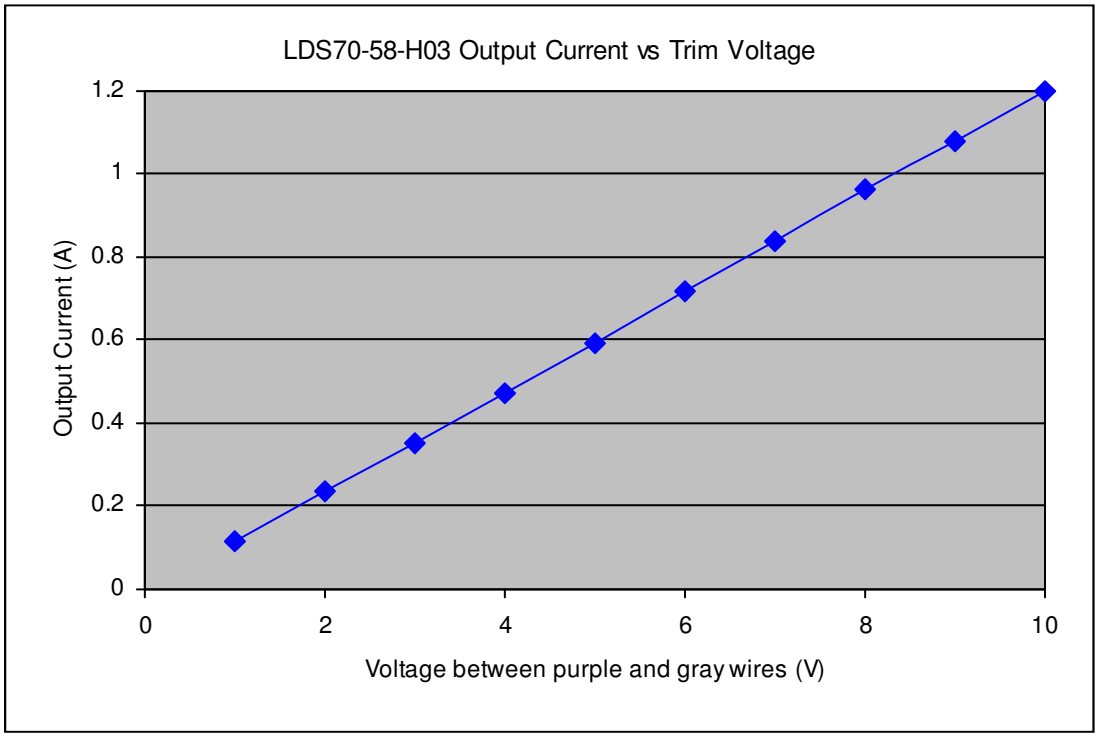
LDS70-58-U01/ LDS70-12-U01

Switch Position	Current Level
CLOSED	At Programmed Level
OPEN	At 20% of Rated Level



0 - 10 V Future Models Between Purple & Grey Wires

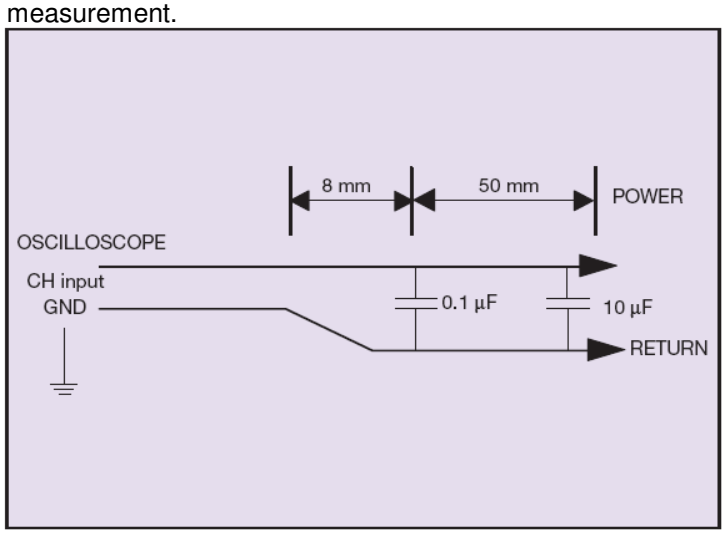
LDS70-58-H03



Output Ripple and Noise Measurement

The setup outlined in the diagram below has been used for output voltage ripple and noise measurements on the

LDS70 Series. When measuring output ripple and noise, a scope jack in parallel with a 0.1uF ceramic chip capacitor, and a 10 uF aluminum electrolytic capacitor should be used. Oscilloscope should be set to 20 MHz bandwidth for this measurement.



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