CS10.241, CS10.241-S1

24V, 10A, SINGLE PHASE INPUT

POWER SUPPLY

- AC 100-120 / 200-240V Auto-select Input
- Width only 60mm
- Optional with Spring-clamp Terminals (CS10.241-S1)
- Efficiency up to 91.6%
- Easy Fuse Breaking due to High Overload Peak Current
- 20% Output Power Reserves
- Full Power Between -25°C and +60°C
- Minimal Inrush Current Surge
- 3 Year Warranty

GENERAL DESCRIPTION

The DIMENSION C-Line units are cost optimized power supplies without compromising quality, reliability and performance. The C-Line is part of the DIMENSION power supply family, existing alongside the high featured Q-Line.

The CS10.241 includes all the essential basic functions and the devices have a power reserve of 20%. This extra current may even be used continuously at temperatures up to +45°C.

The most important features are the small size, high efficiency and the wide temperature range.

The Auto-select input makes worldwide installation and usage very simple. Defects or system failures caused by wrongly set switches cannot occur.

High immunity to transients and power surges as well as low electromagnetic emission and a large international approval package for a variety of applications makes this unit suitable for nearly every situation.

SHORT-FORM DATA

Output voltage	DC 24V	
Adjustment range	24 - 28V	
Output current	10A	at 24V, amb <60°C
	12A	at 24V, amb <45°C
	8.6A	at 28V, amb <60°C
	10.3A	at 28V, amb <45°C
Output power	240W	ambient <60°C
	288W	ambient <45°C
Output ripple	< 50mVpp	20Hz to 20MHz
AC Input voltage	AC 100-120V / 200-240V	±10% Auto-select input
Mains frequency	50-60Hz	±6%
AC Input current	3.73 / 2.23A	at 120 / 230Vac
DC Input voltage	-	not allowed
Power factor	0.59 / 0.51	at 120 / 230Vac
AC Inrush current	3 / 3A peak	at 120 / 230Vac
Efficiency	91.0 / 91.6%	at 120 / 230Vac
Losses	23.7 / 22.0W	at 120 / 230Vac
Temperature range	-25°C to +70°C	operational
Derating *)	6W/°C	+60 to +70°C
Hold-up time	46 / 47ms	at 120 / 230Vac
Dimensions	60x124x117mm	WxHxD
Weight	700g / 1.54lb	

ORDER NUMBERS

Power Supply	**CS10.241**	24-28V Standard unit
	CS10.241-S1	Version with quick-connect spring-clamp terminals
Accessory	ZM1.WALL	Wall mount bracket
	ZM13.SIDE	Side mount bracket
	YRM2.DIODE	Redundancy module
	YR40.241	Redundancy module

MARKINGS

c UL US LISTED IND. CONT. EQ. UL 508

c TÜV US UL 60950-1

c SP US Class I Div 2

GL Marine

CE EMC, LVD

INDEX

TERMINOLOGY, ABREVIATIONS AND DEFINITIONS

PE and ⏚ symbol	PE is the abbreviation for **P**rotective **E**arth and has the same meaning as the symbol ⏚.
Earth, Ground	This document uses the term "earth" which is the same as the U.S. term "ground".
T.b.d.	To be defined, value or description will follow later.
AC 230V	A figure displayed with the AC or DC before the value represents a nominal voltage with standard tolerances (usually ±15%) included. E.g.: DC 12V describes a 12V battery disregarding whether it is full (13.7V) or flat (10V)
230Vac	A figure with the unit (Vac) at the end is a momentary figure without any additional tolerances included.
50Hz vs. 60Hz	As long as not otherwise stated, AC 100V and AC 230V parameters are valid at 50Hz mains frequency. AC 120V parameters are valid for 60Hz mains frequency.
may	A key word indicating flexibility of choice with no implied preference.
shall	A key word indicating a mandatory requirement.
should	A key word indicating flexibility of choice with a strongly preferred implementation.

1. INTENDED USE

This device is designed for installation in an enclosure and is intended for the general professional use such as in industrial control, office, communication, and instrumentation equipment.

Do not use this power supply in equipment, where malfunction may cause severe personal injury or threaten human life.

This device is designed for use in hazardous, non-hazardous, ordinary or unclassified locations.

The power supply does not fulfil the harmonic current standard EN61000-3-2. Do not use this power supply when the following criteria apply:

a) the end-device is used within the European Union and
b) the end-device is connected to a public mains supply with a nominal voltage greater or equal 220Vac and
c) the power supply is:
- fitted in an end-device with an average input power greater than 75W or
- fitted in an end-device with a continuous input power greater than 75W or
- part of a lighting system.

Exception:
End-devices for professional applications with an input power > 1000W do not need to fulfill EN 61000-3-2.

Comments:
- The average input power must be determined in accordance with EN 61000-3-2.
- Industrial mains supplies with their own transformer are considered to be “non-public”.
- Where individual self-contained items of equipment are installed in a rack or case (e.g. devices connected in parallel), they are regarded as being individually connected to the mains supply. The rack or case need not be tested as a whole. Alternatively it is also permitted to assess the whole rack or case. This is recommended for devices used in professional applications with an input power greater than 1000W.

If PFC according to the Harmonics Standard EN 61000-3-2 is required, please use the CS10.242.

2. INSTALLATION REQUIREMENTS

This device may only be installed and put into operation by qualified personnel.

This device does not contain serviceable parts. The tripping of an internal fuse is caused by an internal defect.

If damage or malfunction should occur during installation or operation, immediately turn power off and send unit to the factory for inspection.

Mount the unit on a DIN-rail so that the input terminals are located on the bottom of the unit. For other mounting orientations see de-rating requirements in this document. See chapter 24.13.

This device is designed for convection cooling and does not require an external fan. Do not obstruct airflow and do not cover ventilation grid (e.g. cable conduits) by more than 15%!

Keep the following installation clearances: 40mm on top, 20mm on the bottom, 5mm on the left and right sides are recommended when the device is loaded permanently with more than 50% of the rated power. Increase this clearance to 15mm in case the adjacent device is a heat source (e.g. another power supply).

A disconnecting means shall be provided for the output of the power supplies when used in applications according to CSA C22.2 No 107.1-01.

⚠ WARNING Risk of electrical shock, fire, personal injury or death.

- Do not use the power supply without proper grounding (Protective Earth). Use the terminal on the input block for earth connection and not one of the screws on the housing.
- Turn power off before working on the device. Protect against inadvertent re-powering.
- Make sure that the wiring is correct by following all local and national codes.
- Do not modify or repair the unit.
- Do not open the unit as high voltages are present inside.
- Use caution to prevent any foreign objects from entering the housing.
- Do not use in wet locations or in areas where moisture or condensation can be expected.
- Do not touch during power-on, and immediately after power-off. Hot surfaces may cause burns.

Notes for use in hazardous location areas:

The power supply is suitable for use in Class I Division 2 Groups A, B, C, D locations.

WARNING EXPLOSION HAZARDS!

Substitution of components may impair suitability for this environment. Do not disconnect the unit or operate the voltage adjustment unless power has been switched off or the area is known to be non-hazardous.