

DDC4370 SERIES

DC/DC Converters for industrial and telecom applications



Switched mode DC/DC Converters
High power – light weight
Parallel connectable
Power failure alarm relay
Analog control by external 0-5VDC voltage

Trimmer adjustable power supplies							
Model	Input voltage range **)	Nominal output voltage	Voltage Setting range	Nominal output current	Current setting range	Max power	Installation/dimensions (width x height x depth)
DDC4370/48/12H	40-87VDC	12VDC	0-18VDC	30A	0-30A	400W	Wall /bench 220x112x73
DDC4370/48/24H	40-87VDC	24VDC	0-36VDC	15A	0-30A	400W	Wall /bench 220x112x73
DDC4370/48/36H	40-87VDC	36VDC	0-54VDC	10A	0-20A	400W	Wall /bench 220x112x73
DDC4370/48/48H	40-87VDC	48VDC	0-72VDC	7.5A	0-15A	400W	Wall /bench 220x112x73
DDC4370/48/72H	40-87VDC	72VDC	0-108VDC	5A	0-10A	400W	Wall /bench 220x112x73
Optional	40-87VDC	96VDC	0-144VDC	3A	0-7,5A	400W	Wall /bench 220x112x73

0-5 V external control signal adjustable power supplies							
Model *)	Input voltage range **)	Nominal output voltage	Voltage Setting range	Nominal output current	Current setting range	Max power	Installation/dimensions (width x height x depth)
DDC4370/48/12AIH	40-87VDC	12VDC	0-18VDC	30A	0-30A	400W	Wall /bench 220x112x73
DDC4370/48/24AIH	40-87VDC	24VDC	0-36VDC	15A	0-30A	400W	Wall /bench 220x112x73
DDC4370/48/36AIH	40-87VDC	36VDC	0-54VDC	10A	0-20A	400W	Wall /bench 220x112x73
DDC4370/48/48AIH	40-87VDC	48VDC	0-72VDC	7,5A	0-15A	400W	Wall /bench 220x112x73
DDC4370/48/72AIH	40-87VDC	72VDC	0-108VDC	5A	0-10A	400W	Wall /bench 220x112x73
Optional	40-87VDC	96VDC	0-144VDC	3A	0-7,5A	400W	Wall /bench 220x112x73

**) Reduced power 40...48VDC

Specifications

Input voltage		40...87VDC (40...48VDC reduced power)
Input current		11 A
Input fuse (inside the unit)		12A
Line regulation		±0.1%
Load regulation		±0.5%
Output setting accuracy		±0.1%
Output ripple (f>50Hz)		<50 mVrms
Status LED indicator		Orange: power OK
Isolation	input-chassis	1500 VAC
	input-output	3750 VAC
	output-chassis	500 VAC
Protection class	mechanical	IP20 metal enclosure
Dimensions	w x h x d	220 x 112 x 73 mm
Weight		1,55 kg
Mounting		DIN-rail, wall, bench
Cooling		Temperature controlled fan
Operating temp range		-25°C...+40°C

DC Input connection

The power supply input cable is connected as follows:

Brown wire	positive DC supply input
Light blue	negative DC supply input
Yellow/green	PE - protective earth

Output voltage and current limit adjustment

The output voltage and output current limit of the power supply can be adjusted as follows:

- Trimmer adjustable models: with the multi-turn potentiometers accessible from the front panel.
- Analog controllable models by an external 0-5 VDC voltage. See detailed description

Both voltage and current can be adjusted from zero to the maximum value. Maximum 400W output power is available within the adjustment range.

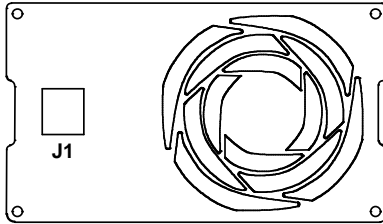
LED

An orange LED indicates a healthy power supply output voltage.

Warning

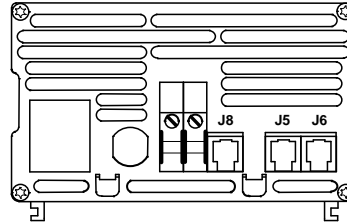
Dangerous voltages, capable of causing death are present in the power supply. Do not remove the cover. There are no operator serviceable parts inside the unit. Refer servicing to qualified service personnel only.

Modular connectors



Front panel

J1 Analog input 0...5Vdc



Rear panel

J8 RS-232 bus output, master slave
Alternatively power failure alarm relay

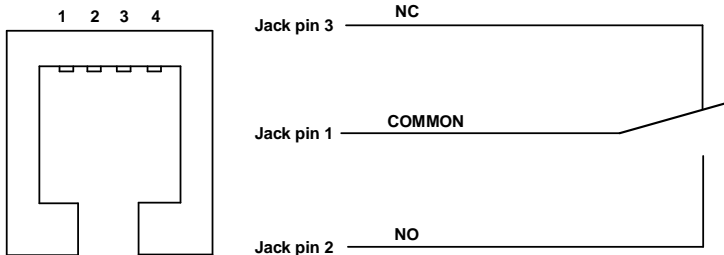
J5 Temperature compensation (Temp.comp models); Voltage drop compensation option
Alternatively RS-232 bus input master-slave

J6 Optional external LED

Alarm relay

The alarm relay output indicates whether the output voltage is healthy or not. The alarm signal is activated in case of an AC failure or charger failure. Both normally closed signals and normally open contacts are available.

Pin configuration, modular connector J8 with alarm relay option



Common is connected to NC when the power is switched off.
Common is connected to NO when the power is switched on.

Cable

Black = common
Red = NO
Green = NC

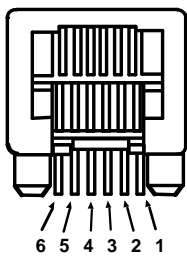
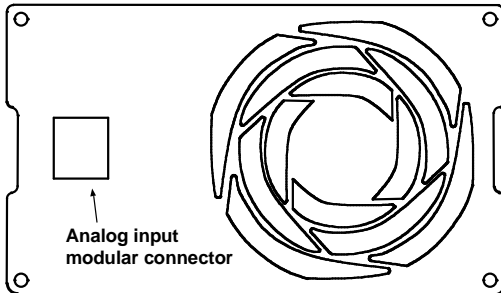
Relay

Isolation:
Output to case: 500V
Output to gnd: 120V

Technical data:
1A@24Vdc
0,5A@120Vac

Analog control

The optional analog control allows full control of the output current and voltages and it provides the measured values for both of these. A +5V supply power is available for the supply of the control logic. The analog input has an isolation value of 500 V towards the input and output of the power supply.



- Pin configuration
1. Ground
 2. Current control input
 3. Voltage control input
 4. Measured current value
 5. Measured voltage value
 6. +5V (max 20mA) output

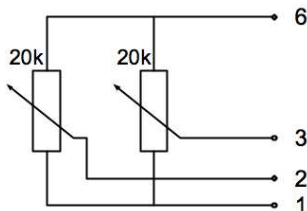
Pin configuration of the modular connector J1
 The analog control card is connected via an AMP Modular 6 connector.

Controlling the analog card

All control voltages must be between 0 and +5V, Higher voltages are not allowed. The control logic is positive, so that a +5V control voltage gives a maximum value from the power supply, while 0V means minimum output. As soon the control connector is unplugged from the modular connector, the power supply is reset to the minimum output values.

The measured values can be read from the measurement signals. The measured values are scaled equal to the target values. If the power supply is set to the voltage reference, the measured value must be equal to the target. The same counts for the current control and its measured value. Measured signals (both together) can be loaded with max 20mA; otherwise proper operation cannot be guaranteed.

The modular connector is isolated from the input, output and enclosure of the power supply. This enables the possibility to parallel or series connect several power supplies maintaining equal voltages. The number of connected devices is not limited. The 500V insulation voltage may, however, not be exceeded. This manual cannot be applied in case the connector of the analog card differs from a modular connector (9-pin D-connector). In that case it is an incompatible analog controlled power supply.



Connecting example using the internal +5Vdc supply and external potentiometers.

The +5V can be used as a supply for external circuits. The circuit given to the left, lets the power supply operate as a potentiometer controlled device. It is important to keep in mind that the +5V output may not be loaded more than 20mA, otherwise proper operation cannot be guaranteed.