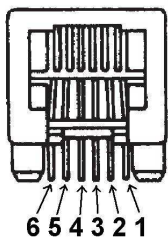


ADC7480 SERIES

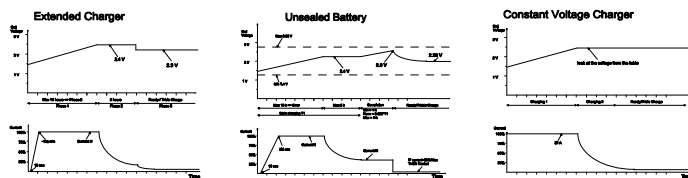
3000W Battery Chargers and Power Supplies



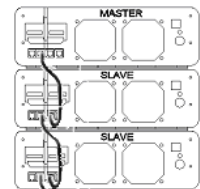
Wide output adjustment range 0...320VDC
Analog control by external 0-5VDC voltage
Temp.comp charging, sense as on option
Power fail relay alarm
Master-Slave connection



Analog control modular connector



Microprocessor controlled charging curves for all kind of batteries



Master-Slave connection

POWER SUPPLIES AND BATTERY CHARGERS, TRIMMER ADJUSTABLE							
Type	Input voltage range **)	Nominal output voltage	Voltage setting range	Nominal output current	Current setting range	Max power **)	Installation / dimensions (Width x Height x Depth, mm)
ADC7480/12	70-264VAC/80-369VDC	12 VDC	0-18 VDC	200 A	0-200A	3000W	Wall/Bench 400x250x80 mm
ADC7480/24	70-264VAC/80-369VDC	24 VDC	0-36 VDC	127 A	0-127A	3200W	Wall/Bench 400x250x80 mm
ADC7480/36	70-264VAC/80-369VDC	36 VDC	0-54 VDC	95 A	0-95A	3200W	Wall/Bench 400x250x80 mm
ADC7480/48	70-264VAC/80-369VDC	48 VDC	0-72 VDC	64 A	0-64A	3200W	Wall/Bench 400x250x80 mm
ADC7480/72	70-264VAC/80-369VDC	72 VDC	0-108 VDC	42 A	0-42A	3200W	Wall/Bench 400x250x80 mm
ADC7480/110	70-264VAC/80-369VDC	110 VDC	0-165 VDC	25 A	0-25A	3200W	Wall/Bench 400x250x80 mm
ADC7480/160	70-264VAC/80-369VDC	160 VDC	0-230 VDC	20 A	0-20A	3200W	Wall/Bench 400x250x80 mm
ADC7480/220	70-264VAC/80-369VDC	220 VDC	0-320VDC	14 A	0-14A	3200W	Wall/Bench 400x250x80 mm

ANALOG CONTROLLABLE MODELS BY EXTERNAL 0-5VDC VOLTAGE							
Type)	Input voltage range **)	Nominal output voltage	Voltage setting range	Nominal output current	Current setting Range	Max power **)	Installation / dimensions (Width x Height x Depth, mm)
ADC7480/12AI	70-264VAC/80-369VDC	12 VDC	0-18 VDC	200 A	0-200A	3000W	Wall/Bench 400x250x80 mm
ADC7480/24AI	70-264VAC/80-369VDC	24 VDC	0-36 VDC	127 A	0-127A	3200W	Wall/Bench 400x250x80 mm
ADC7480/36AI	70-264VAC/80-369VDC	36 VDC	0-54 VDC	95 A	0-95A	3200W	Wall/Bench 400x250x80 mm
ADC7480/48AI	70-264VAC/80-369VDC	48 VDC	0-72 VDC	64 A	0-64A	3200W	Wall/Bench 400x250x80 mm
ADC7480/72AI	70-264VAC/80-369VDC	72 VDC	0-108 VDC	42 A	0-42A	3200W	Wall/Bench 400x250x80 mm
ADC7480/110AI	70-264VAC/80-369VDC	110 VDC	0-165 VDC	25 A	0-25A	3200W	Wall/Bench 400x250x80 mm
ADC7480/160AI	70-264VAC/80-369VDC	160 VDC	0-230 VDC	20 A	0-20A	3200W	Wall/Bench 400x250x80 mm
ADC7480/220AI	70-264VAC/80-369VDC	220 VDC	0-320VDC	14 A	0-14A	3200W	Wall/Bench 400x250x80 mm

BATTERY CHARGERS WITH TEMPERATURE COMPENSATION						
Type)	Input voltage range **)	Output voltage factory setting	Programmed output voltages (see table page 8)	Output current (see table)	Max power **)	Installation / dimensions (Width x Height x Depth, mm)
ADC7480/12T	70-264VAC/80-369VDC	13.7 VDC	3.3-18 VDC	200 A	3000W	Wall/Bench 400x250x80 mm
ADC7480/24T	70-264VAC/80-369VDC	27.4 VDC	12-28 VDC	127 A	3200W	Wall/Bench 400x250x80 mm
ADC7480/36T	70-264VAC/80-369VDC	41.4 VDC	13.7-42 VDC	95 A	3200W	Wall/Bench 400x250x80 mm
ADC7480/48T	70-264VAC/80-369VDC	54.8 VDC	13.7-60 VDC	64 A	3200W	Wall/Bench 400x250x80 mm
ADC7480/72T	70-264VAC/80-369VDC	82.2VDC	27.4-82,5 VDC	42 A	3200W	Wall/Bench 400x250x80 mm
ADC7480/110T	70-264VAC/80-369VDC	123.3VDC	82.2-137 VDC	25 A	3200W	Wall/Bench 400x250x80 mm
ADC7480/160T	70-264VAC/80-369VDC	137VDC	82.2-219.2 VDC	20 A	3200W	Wall/Bench 400x250x80 mm
ADC7480/220T	70-264VAC/80-369VDC	246.6 VDC	109.6-287.7 VDC	14 A	3200W	Wall/Bench 400x250x80 mm

*) Cable sets with modular connectors are included in packing: 1.5m cable set for analog control and 2.5m for or temp.comp models

***) Reduced power 80...230VAC/VDC, see curves at next page

If voltage version is more than 36V charger output is not SELV (Safety Extra Low Voltage) circuit.

MODELS WITH POWER FAIL RELAY ALARM (24V models as a type number example)		
Type	Option description	Cable set
ADC7480/24H	Trimmer adjustable model with power fail relay alarm	1.5 m, modular connector
ADC7480/24AIH	Analog controllable model with power fail relay alarm	Analog + relay cables
ADC7480/24TH	Temp.comp model with Power fail relay alarm	Temp.comp + relay cables

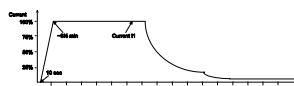
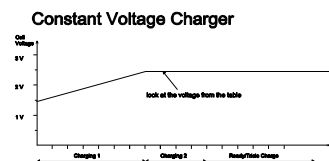
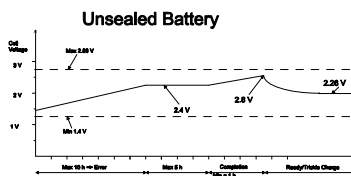
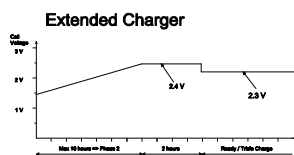
MASTER-SLAVE CONNECTION (24V models as a type number example)	
Master units ***)	Slave units
ADC7480/24 or ADC7480/24AI (optional for ADC7520/24T)	ADC7480/24S serial bus control in and out
Control to slave via serial bus****)	ADC7480/24SH slave unit with relay, serial bus in only
Cable set for master slave connection included in slave unit type number, 0.6m modular connectors in both ends	

****) Master unit or slave with serial bus output can not include the relay alarm

*****) TTL level serial bus, need level converter if use with standard RS-232 port

CUSTOMISED VERSIONSON S

- Cyclic battery chargers or customized charging curves for all kind of batteries
- Sense models
- Customized mechanics

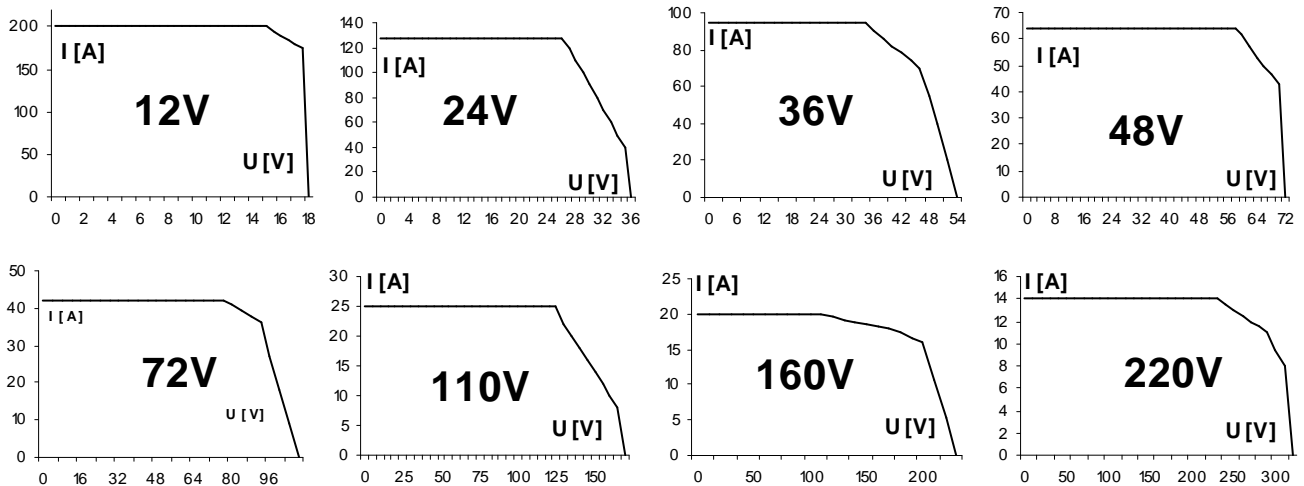


TECHNICAL DATA

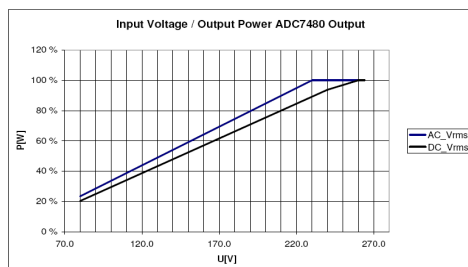
Input voltage	70...264 VAC (70...230VAC reduced power, see curve below) 80...369 VDC (80...230VDC reduced power)	
Efficiency	89% at full load, over 90% at 50% load (230VAC input)	
Input current	16A (max)	
Frequency	47-63 Hz	
Power Factor	>0.95	
Inrush current	Soft start	
Output ripple	<1% from output voltage, rms	
Mechanics	Wall mounting, see dimensions first page	
Connectors	Input	Power cord, European schuko plug
	Output	Models 12V, 24V, 36V, 48V copper bus bar terminals Model 72V 10 mm ² 1.5m output cables Models 110V, 160V, 220V 6 mm ² 1.5m output cables
Enclosure	Option	Options Modular connector
Weight	Aluminum case IP 20	
Output grounding	7.1 kg without cables	
Ambient temperature	Floating	
Over temperature protection	-20°C...+45°C at full load, abs. max. +55°C, see curve below	
Over current protection	Processor controlled on/off	
Reverse polarity protection	Electrical current limit	
Isolations	With fuse	
Standards	Safety	Class I IEC60950-1:2005(2 nd Edition)+A1:2009
		EN 60335-2-29:2004 +A2:2010
		EN 60335-1:2002+A11:2004+A12:2006+A2:2006+A13:2008 EN 62233:2008

Note: If charger's rated output voltage is higher than 36V it doesn't fulfill article 10.101 ("The no-load d.c. output voltage shall not exceed 42,4V.")

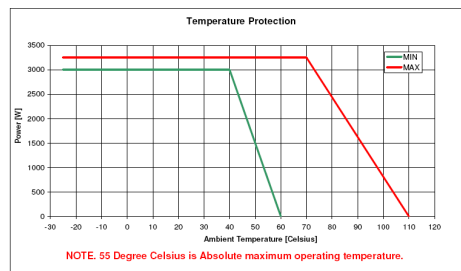
EMC emissions	Commercial and light-industrial environment EN61000-6-3, EN55022 Class B,
EMC Immunity	Industrial environment EN61000-6-2
Harmonics	EN61000-3-2
Flickering	EN61000-3-3



Nominal output voltage / current characteristics 3000W modules



Output power / input voltage de rating curve



Output power / ambient temperature

INSTALLATION

The location must be dry, dust-free, and indoors. The acceptable temperature range for operation is -20°C to +45°C. A higher ambient temperature will limit the current supply. **CAUTION:** The charger is not waterproof. Keep it dry and away from areas of high humidity to avoid the risk of electrical shock and damage to the charger.

The equipment may be installed either vertically or horizontally. To ensure sufficient ventilation, leave approximately 10 cm of space around all air in- and outlets of the charger. Do not cover the equipment. Defined IP protection is reached if wall assembly used as instruction manual says.

POWER SUPPLY / CHARGING OPERATION

- ① Ensure that the unit is switched off and that the environment meets the conditions described previous section
- ② Connect the output cables to the load / battery terminals: + cable to the + terminal and - cable to the - terminal.
- ③ Turn the power on by turning the switch to the I position.
- ④ During the normal power supply operation / charging process the STATUS light will show a constant orange light.
- ⑤ To avoid sparking, turn the power off before disconnecting the cables.

CONNECTION WITH DC INPUT

Wires in PSU's power cable to be connected as follows:

L	DC input positive or negative
N	DC input negative or positive
PE	Ground

OUTPUT VOLTAGE AND CURRENT LIMIT ADJUSTMENT

Trimmer or analog control adjustable modules, type example ADC7480/24 or ADC7480/24AI:

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

- Trimmer adjustable models: with the multi-turn potentiometer located on the front panel
- Analog controllable models by external 0-5VDC voltage, see detailed instructions

Both voltage and current can be adjusted from zero to maximum value. Maximum 3200W output power is available within the adjustment range.

Temp. comp. models, type example ADC7480/24T:

Unit includes 16pcs of programmed output voltages, see temp. comp. models setting tables page. Any of these 16 different voltage settings can be taken in use. See instructions for choosing the programmed voltage.

LED

A orange LED indicates that the output of the charger module is healthy.

RELAY ALARM

Alarm relay indicates presence of AC input and charger failure. Both normally closed signals and normally open contacts are available.

OUTPUT OVERCURRENT PROTECTION

Output of the unit is protected against over current and short circuits by automatic, self-resetting electronic current limit.

SERIES / PARALLEL CONNECTION

Parallel operation: Passive load sharing. External series diodes are needed for redundant n+1 systems.

Series operation: Up to 500V total voltage

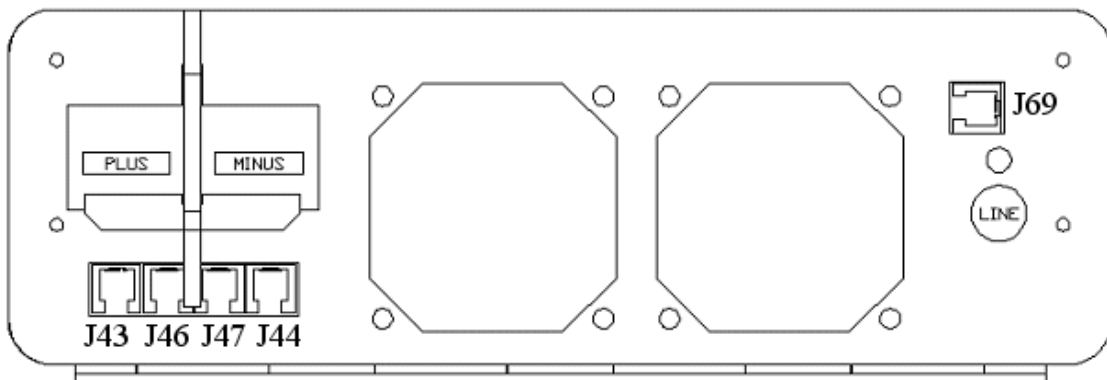
WARNING!

Dangerous voltages, capable of causing death, are present in this equipment. Do not remove the cover. No operator serviceable parts inside. Refer servicing to qualified service personnel.

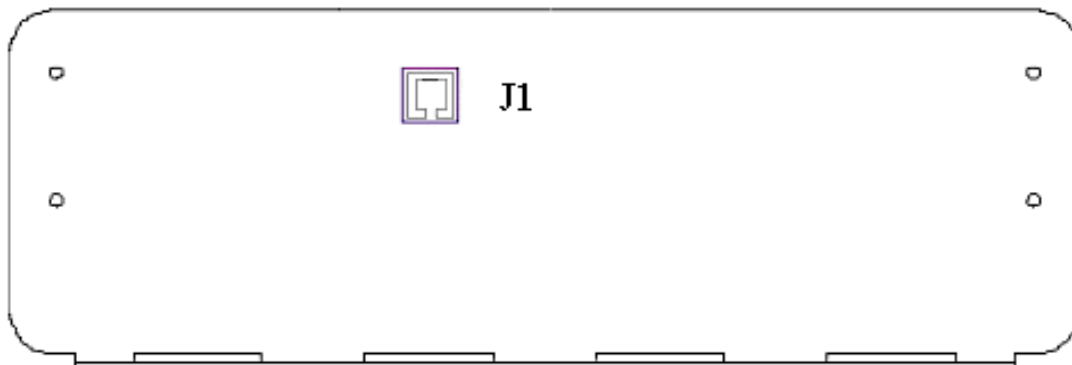
SELECTION TABLE OF ADC7480 FEATURES

<p>This table shows which features are possible at the same time.</p> <p>IF N THEN then not possible.</p> <p>Some of allowed combinations are optional. Contact manufacturer or your local distributor for further details.</p>	T	A	R	B	B	T	S	C						
	r	n	e	u	u	e	e	o						
	I	a	l	s	s	m	n	d						
	m	L	a	O	I	p	s	e						
	e	o	y	u	n			e	S					
		g		o					w					
									i					
									t					
									c					
								h						
Trimmer adjustment		N			N	N		N						
Analog control (isolated)	N				N	N		N						
Relay alarm				N										
BusOut (serial bus control to slave)			N											
BusIn	N	N												
Temp.comp.	N	N												
Sense														
Customised charging algorithm chargers with code Switch	N	N												

PIN CONFIGURATION, MODULAR CONNECTORS



- FRONT PANEL**
- J43 Relay Alarm option
 - J46 Digital serial bus out, control for external relay
 - J47 Digital serial bus in option
 - J44 Temperature compensation and Sense options
 - J69 Not in use (reserved factory testing)



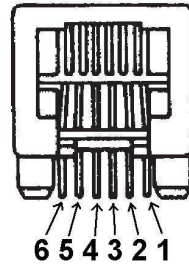
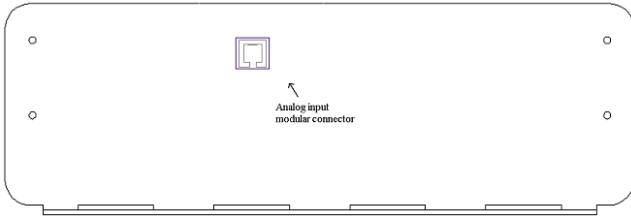
- REAR PANEL**
- J1 Analog control, isolated (for example type ADC7480/24AI)

OPTIONAL ANALOG CONTROL VERSIONS, ISOLATED

Analog control option allows full control for output current and voltages and it gives measured values for both of these. There is also available +5V internal power source for logic use. The analog input have 500V electrical insulation to power supply's input and output.

PIN CONFIGURATION, MODULAR CONNECTOR

Interface to analog control card is made through AMP Modular 6 connector. It's part number is 215-876-1. The product specification number is 108-19064 and application number is 114-19019. Part number for cable connector that fits to modular 6 is 737 336-1.



Pin configuration:

1. Ground
2. Target value for current
3. Target value for voltage
4. Measured value for current
5. Measured value for voltage
6. +5V, (max 20mA) output

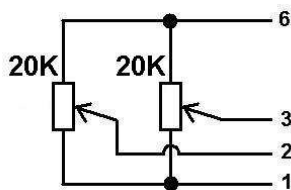
Controlling analog card:

All control voltages must be between 0 and 5 volts. Over 5V steering is not allowed. Logic for steering is positive so 5V in target value means maximum value from power supply and 0V means minimum output. If controlling connector is unplugged from modular connector, the power supply takes it's minimum values for output.

Measured values can be read from measured signals. Measured voltages are scaled equal as target values. If power supply lies on it's voltage reference, then measured voltage should be equal as target. Same thing on current steering and it's measured value. Measured signals (both together) can be loaded only 20mA or proper operation is not guaranteed.

Modular connector is isolated from power supply's input, enclosure and output terminals. That allows serial and parallel connection to separate power supply's so that equal steering voltages are used. Number or connected devices are not limited. Only be sure that 500V insulation voltage is not exceeded. If connector in analog card is not a modular connector (9 pin D-connector), it is a different version of analog controlled power supply and this manual is not valid to it.

Connection example, using internal +5VDC power source and external potentiometers:



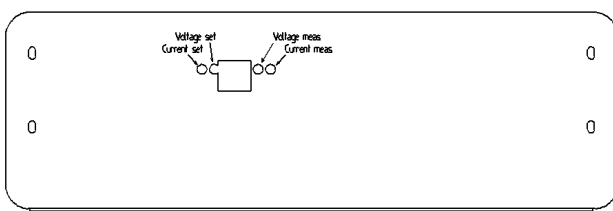
+5V output can be used to feed logic voltages for external circuits. Connection in an example works as a potentiometer controlled power supply. It is important to notice that +5V output is not allowed to load more then 20mA or proper operation is not guaranteed.

Tuning instructions:

Attention !!!

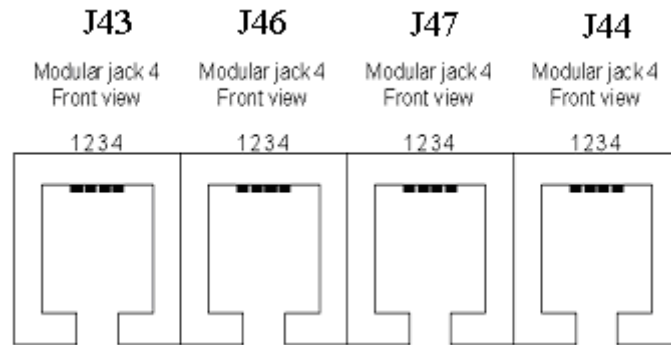
Analog interface is tuned in a factory before it is delivered to customer. There should not be any reason for tuning if card is used between 0-5V voltage values. Qualified person is needed for tuning the device. Tuning can be done with a pair of digital multi meters and example schematic above. Procedure is following:

1. Adjust from potentiometers 5V to voltage target and 2V for current target. Connect digital voltage meter to power supply output. Tune from "Voltage Set" trimmer maximum output voltage to right value.
2. Connect digital voltage meter to Modular pin number 5. Tune from trimmer "Voltage Meas" so that digital voltage meter shows always equal value as is in pin 3 (target voltage).
3. Connect digital current meter to output so that it short-circuits the output. Now tune current target potentiometer to 5V. Tune from "Current Set" trimmer output current to value that is maximum value for device according to it's specification. Be sure that your current meter has a right range. Do never exceed the current values that are specified for the device. If specified value is not known, take a contact to distributor.
4. Measure with digital multi meter voltage from Modular connector pin 4 Tune from trimmer "Current Meas" to equal with voltage in modular pin 2 (Target Current).



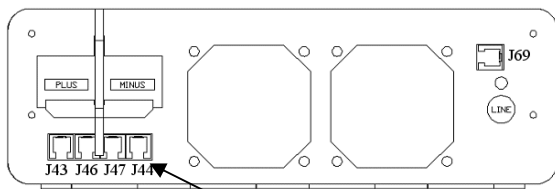
ADC7480 front panel
Location of tuning trimmers for analog control
Trimmers are covered by sticker

OPTIONAL RELAY ALARM, TEMP.COMP, SENSE AND SERIAL BUS VERSIONS



- | | | | |
|---|---|----------------------------------|-----------------------------------|
| J43: pin1= Not connected | J46: pin1= Relay control + | J47: pin1= Not connected | J44: pin1= Sense plus (+) |
| J43: pin2= Relay contact common | J46: pin2= Serial bus gnd | J47: pin2= Serial bus gnd | J44: pin2= Temp sens (+) |
| J43: pin3= Relay contact normally closed | J46: pin3= Relay control gnd | J47: pin3= Not connected | J44: pin3= Temp sens (-) |
| J43: pin4= Relay contact normally open | J46: pin4= Serial bus out col. (+) | J47: pin4= Serial bus in | J44: pin4= Sense minus (-) |

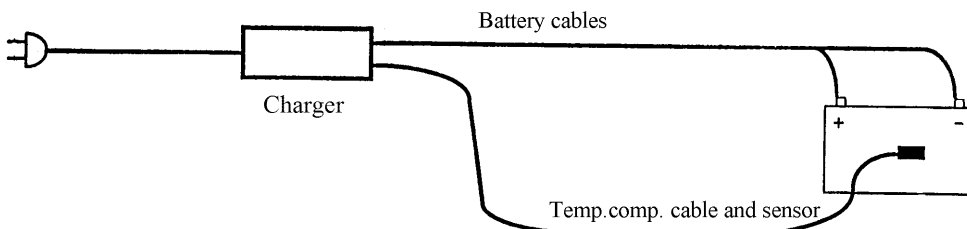
TEMPERATURE COMPENSATION MODELS, type number example ADC7480/24T



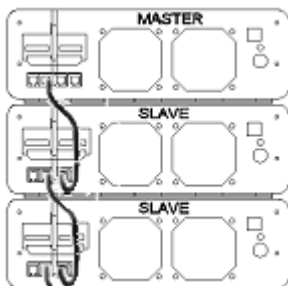
The temp.comp cable enables the charger to adjust the output voltage in accordance with battery voltage and temperature fluctuations

Temp.comp. / sense Modular connector

See instructions for changing and adjusting the output voltage



OPTIONAL MASTER SLAVE CONNECTION



Using master power supply together with Slave unit.

Master unit can be trimmer adjustable standard model ADC7480/24 or analog controllable model ADC7480/24AI (24V as an example).

Note !

Unit with relay alarm, type example ADC7480/24H can't be used as a master unit.

Slave unit is separate unit without adjustment possibility, type ADC7480/___S.

Connecting two or more ADC7480 units in series or parallel increases the output supply current or voltage. The output voltage and current of the master unit can be controlled by trimmers or by external analog control. The bus output from the master is connected to the first slave unit, which voltage / current equals to masters settings. More power can be provided by connecting more slave units to the chain. The connection principle is illustrated in the picture.

PROGRAMMED VOLTAGES FOR TEMP.COMP. MODELS, type number example ADC7480/24T

ADC7480/12T 12VDC 200A

Code switch position	Nominal Battery voltage	Voltage factory setting	Output Current	Factory default
0		3,3 VDC	200 A	
1		5 VDC	200 A	
2	6 VDC	6,75 VDC	200 A	
3	6 VDC	6,85 VDC	200 A	
4	6 VDC	6,9 VDC	200 A	
5		12 VDC	200 A	
6	12 VDC	13,4 VDC	200 A	
7	12 VDC	13,5 VDC	200 A	
8	12 VDC	13,6 VDC	200 A	
9	12 VDC	13,7 VDC	200 A	X
A	12 VDC	13,7 VDC	133 A	
B	12 VDC	13,7 VDC	67 A	
C	12 VDC	13,8 VDC	200 A	
D	12 VDC	13,9 VDC	200 A	
E	12 VDC	14 VDC	200 A	
F		15 VDC	200 A	

ADC7480/24T 24VDC 127A

Code switch position	Nominal Battery voltage	Voltage factory setting	Output Current	Factory default
0		12 VDC	127 A	
1	12 VDC	13,6 VDC	127 A	
2	12 VDC	13,7 VDC	127 A	
3	12 VDC	13,8 VDC	127 A	
4		24 VDC	127 A	
5	24 VDC	26,8 VDC	maximum	
6	24 VDC	27 VDC	maximum	
7	24 VDC	27,2 VDC	maximum	
8	24 VDC	27,3 VDC	maximum	
9	24 VDC	27,4 VDC	maximum	X
A	24 VDC	27,4 VDC	85 A	
B	24 VDC	27,4 VDC	42 A	
C	24 VDC	27,5 VDC	maximum	
D	24 VDC	27,6 VDC	maximum	
E	24 VDC	27,8 VDC	maximum	
F	24 VDC	28 VDC	maximum	

ADC7480/36T 36VDC 95A

Code switch position	Nominal Battery voltage	Voltage factory setting	Output Current	Factory default
0	12 VDC	13,7 VDC	95 A	
1		24 VDC	95 A	
2	24 VDC	27,4 VDC	95 A	
3	30 VDC	34,25 VDC	95 A	
4		36 VDC	maximum	
5	36 VDC	40,2 VDC	maximum	
6	36 VDC	40,5 VDC	maximum	
7	36 VDC	40,8 VDC	maximum	
8	36 VDC	40,95 VDC	maximum	
9	36 VDC	41,1 VDC	maximum	X
A	36 VDC	41,1 VDC	63 A	
B	36 VDC	41,1 VDC	31 A	
C	36 VDC	41,25 VDC	maximum	
D	36 VDC	41,4 VDC	maximum	
E	36 VDC	41,7 VDC	maximum	
F	36 VDC	42 VDC	maximum	

ADC7480/48T 48VDC 64A

Code switch position	Nominal Battery voltage	Voltage factory setting	Output Current	Factory default
0	12 VDC	13,7 VDC	64 A	
1	24 VDC	27,4 VDC	64 A	
2	36 VDC	41,1 VDC	64 A	
3		48 VDC	64 A	
4	48 VDC	53,6 VDC	maximum	
5	48 VDC	54 VDC	maximum	
6	48 VDC	54,4 VDC	maximum	
7	48 VDC	54,6 VDC	maximum	
8	48 VDC	54,8 VDC	maximum	X
9	48 VDC	54,8 VDC	43 A	
A	48 VDC	54,8 VDC	21 A	
B	48 VDC	55 VDC	maximum	
C	48 VDC	55,2 VDC	maximum	
D	48 VDC	55,6 VDC	maximum	
E	48 VDC	56 VDC	maximum	
F		60 VDC	maximum	

ADC7480/72T 72VDC 42A

Code switch position	Nominal Battery voltage	Voltage factory setting	Output Current	Factory default
0	24 VDC	27,4 VDC	42 A	
1	36 VDC	41,1 VDC	42 A	
2	48 VDC	54,8 VDC	42 A	
3		60 VDC	42 A	
4	60 VDC	67,5 VDC	42 A	
5	60 VDC	68 VDC	42 A	
6	60 VDC	68,5 VDC	42 A	
7	60 VDC	68,5 VDC	21 A	
8	60 VDC	68,8 VDC	42 A	
9		72 VDC	42 A	
A	72 VDC	81 VDC	maximum	
B	72 VDC	81,6 VDC	maximum	
C	72 VDC	82,2 VDC	maximum	X
D	72 VDC	82,2 VDC	28 A	
E	72 VDC	82,2 VDC	14 A	
F	72 VDC	82,5 VDC	maximum	

ADC7480/110T 110VDC 25A

Code switch position	Nominal Battery voltage	Voltage factory setting	Output Current	Factory default
0	72 VDC	82,2 VDC	25 A	
1	80 VDC	91,3VDC	25 A	
2	84 VDC	95,9 VDC	25 A	
3	96 VDC	108 VDC	25 A	
4	96 VDC	108,8 VDC	25 A	
5	96 VDC	109,6 VDC	25 A	
6	96 VDC	109,6 VDC	13 A	
7	96 VDC	110,4 VDC	25 A	
8	108 VDC	121,5 VDC	25 A	
9	108 VDC	122,4 VDC	25 A	
A	108 VDC	123,3 VDC	25 A	X
B	108 VDC	123,3 VDC	17 A	
C	108 VDC	123,3 VDC	8 A	
D	108 VDC	124,2 VDC	25 A	
E	110 VDC	125,6VDC	25 A	
F	120 VDC	137 VDC	25 A	

ADC7480/160T 160VDC 20A

Code switch position	Nominal Battery voltage	Voltage factory setting	Output Current	Factory default
0	84 VDC	95,9 VDC	20 A	
1	96 VDC	109,6 VDC	20 A	
2	108 VDC	123,3 VDC	20 A	
3	110 VDC	125,6VDC	20 A	
4	120 VDC	135 VDC	20 A	
5	120 VDC	137 VDC	20 A	X
6	120 VDC	137 VDC	10 A	
7	120 VDC	138 VDC	20 A	
8	126 VDC	143,9VDC	20 A	
9	132 VDC	150,7VDC	20 A	
A	144 VDC	164,4VDC	20 A	
B	150 VDC	171,3VDC	maximum	
C	156 VDC	178,1VDC	maximum	
D	168 VDC	191,8VDC	maximum	
E	180 VDC	205,5VDC	maximum	
F	192 VDC	219,2VDC	maximum	

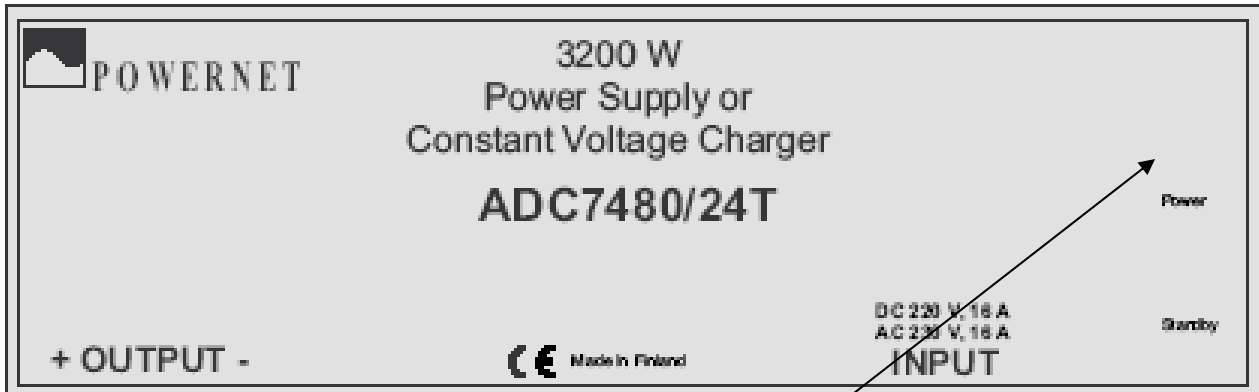
ADC7480/220T 220VDC 14A

Code switch position	Nominal Battery voltage	Voltage factory setting	Output Current	Factory default
0	96 VDC	109,6 VDC	14 A	
1	108 VDC	123,3 VDC	14 A	
2	120 VDC	137 VDC	14 A	
3	180 VDC	205,5 VDC	14 A	
4	204 VDC	232,9 VDC	14 A	
5	216 VDC	242 VDC	maximum	
6	216 VDC	243 VDC	maximum	
7	216 VDC	244 VDC	maximum	
8	216 VDC	245 VDC	maximum	
9	216 VDC	246,6 VDC	maximum	X
A	216 VDC	246,6 VDC	10 A	
B	216 VDC	246,6 VDC	5 A	
C	216 VDC	248 VDC	maximum	
D	216 VDC	249,5 VDC	maximum	
E	220 VDC	251,2VDC	maximum	
F	252 VDC	287,7 VDC	maximum	

Factory default code switch position by bold in tables

**INSTRUCTION TO CHANGE THE PROGRAMMED VOLTAGE FOR TEMP.COMP./SENSE MODELS,
type number example ADC7480/24T**

- ① Disconnect the power cord from the power line.
- ② Disconnect the output cables from the battery.
- ③ See the current code switch position of the unit.
- ④ See new switch position code from the programmed output voltages sticker on the unit
- ⑤ Rotate the code switch to the required position.

**Code switch**

The adjustment can be checked as follows:

- Short-circuit the output cables of the charger (output short circuit).
- Connect the charger to the power line.
- Follow the Status-led color. Switch ON the charger from the on/off switch.
- Count all the number of green blinks.
- There must be as much number of blinks as the code switch position number is.

Note!

If the position of the code switch is O, Status-led blinks only once and returns to red.
The code switch positions A...F respond numbers 10...15

☺ **Now the charger has been adjusted!**

HINTS IF NOT SUCCEED

- ⊗ You didn't have chance to count the number of blinks

=> You can start the test with the on/off switch of the charger again and count.

You have made the wrong setting

=> Switch the charger off again and make the correct setting and count the blinking to check.

- ⊗ You cannot find the required charging algorithm on list available

=> Contact the seller / importer and ask if the charger can be updated with the algorithm you need.