

Data Sheet

CS-200W4A-XX

Part No.: AA-10253-0XX



Current Source 200W

Features

- For Powering Series Connected Thyristor Gate Units or Voltage Sources
- Optical Status Feedback Glass Fibre (GF) or Plastic (POF)
- Optical Status Loop (Slave version), Glass Fibre (GF) or Plastic (POF)
- Immune to external EM Fields
- Designed for several input voltages
- 200W Output Power

Rev.	Remarks / changes	created		checked		released	
01	Initial, created from AD-10270-019	FF	15.08.12	AST	28.08.12	FF	29.08.12
02	Add a new version (-31)	BS	29.04.13	FF	29.04.13	FF	29.08.13

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1. Introduction

1.1. Description

The current source AA-10253-0XX is used to generate a current to supply gate units of series connected thyristors or voltage sources. These devices use a high voltage insulated closed loop cable that ensures the powering at different potential levels. There are different types available, see also Order code.

1.1.1. Models

Current source	Master / Slave	Status Feedback	Status Loop	V _{In} Min	V _{In} Typ	V _{In} Max	Unit
CS-200W4A-01	Master	HFBR1414T	-	36	¹⁾	72	VDC
CS-200W4A-02	Slave	HFBR1414T	HFBR2412T	36	¹⁾	72	VDC
CS-200W4A-11	Master	HFBR1528	-	36	¹⁾	72	VDC
CS-200W4A-12	Slave	HFBR1528	HFBR2528	36	¹⁾	72	VDC
CS-200W4A-21	Master	HFBR1414T	-	36	¹⁾	135	VDC
CS-200W4A-22	Slave	HFBR1414T	HFBR2412T	36	¹⁾	135	VDC
CS-200W4A-31	Master	HFBR1414T	-	36	¹⁾	72	VDC

- ¹⁾ Nominal input voltage depends on the number and kind of the powered gate units or power supplies. Please contact factory for detailed information.

1.2. Electrical specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Input Voltage	V _{In}	Depends on external load	36	¹⁾	³⁾	VDC
Standby current	I _{standby}	@24VDC	-	250	-	mA
Output frequency	f	-	224	25	26	kHz
Power consumption	P	Number of external loads	-	-	200	W
Number of external loads	N	-	1	-	24 ²⁾	pcs
Startup delay	t _{startup}	-	-	-	30	ms

- ¹⁾ Nominal input voltage depends on the number and kind of the powered gate units or power supplies. Please contact factory for detailed information.
- ²⁾ Number of external loads depends on the kind of the powered gate units or power supplies and type of current source.
- ³⁾ Maximum voltage depends on type of current source (see 1.1.1, Types)

1.3. Optical interfaces

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Status feedback high	P _{Out_high}	HFBR 1414T	-10	-	-	dBm
Status feedback low	P _{Out_low}	HFBR 1414T	-	-	-40	dBm
Status feedback high	P _{Out_high}	HFBR 1528	-19	-	-1	dBm
Status feedback low	P _{Out_low}	HFBR 1528	-	-	-40	dBm
Status loop high	P _{In_high}	HFBR 2412T	-9.2	-	-	dBm
Status loop low	P _{In_low}	HFBR 2412T	-	-	-40	dBm
Status loop high	P _{In_high}	HFBR 2528	-20	-	-	dBm
Status loop low	P _{In_low}	HFBR 2528	-	-	-40	dBm



Do not connect optical cables when light is on

1.4. Environmental conditions

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Ambient temperature	T _{amb}	-	-25	-	+70	°C
Storage temperature	T _{store}	Without forced air cooling	-40	-	+50	°C
Humidity	Hum	Non condensing	0	-	95	% RH
Operating altitude	Alt	-			3000	m

2. Connectors and indicators

2.1.Connectors

Parameter	Symbol	Description
Auxiliary power	xxV/0V/GND	Phoenix connector MSTBA2,5/3
Status feedback	SF PS	HFBR-1414T / HFBR1528 (Avago)
Status loop	SL PS	HFBR-2412T / HFBR258 (Avago)
Plug type on optical cable customer side	SF PS, SL PS	HFBR-4532 / ST Connector

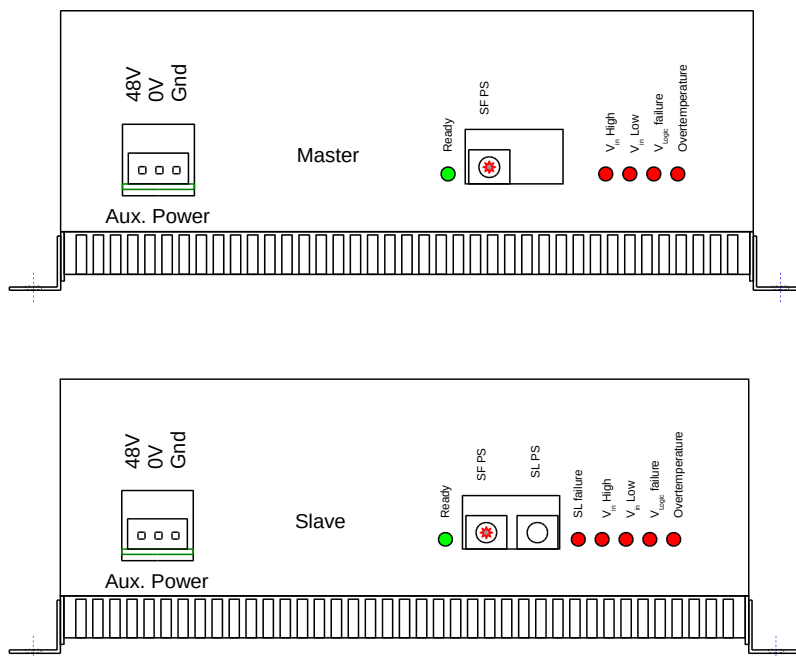
2.2.Terminal Block



Parameter	Symbol	Description
Electrical output	1,2	output

2.3.Indicators

Parameter	Symbol	Description
LED (green)	Ready	Indicates that the power supply and the output current is ok
LED (red)	SL failure	Indicates a problem in the monitoring chain (slave models only)
LED (red)	V _{in} high	Input voltage too high (depends on model)
LED (red)	V _{in} low	Input voltage too high (< 36VDC)
LED (red)	V _{Logic} failure	Internal voltage failure
LED (red)	Overtemperature	Temperature in current source is too high (> 85 °C)
Status feedback	SF PS	This signal contains the following errors: SL failure, V _{in} high, V _{in} low, V _{Logic} failure, Overtemperature
Status loop	SL PS	Status loop (in slave configuration only)

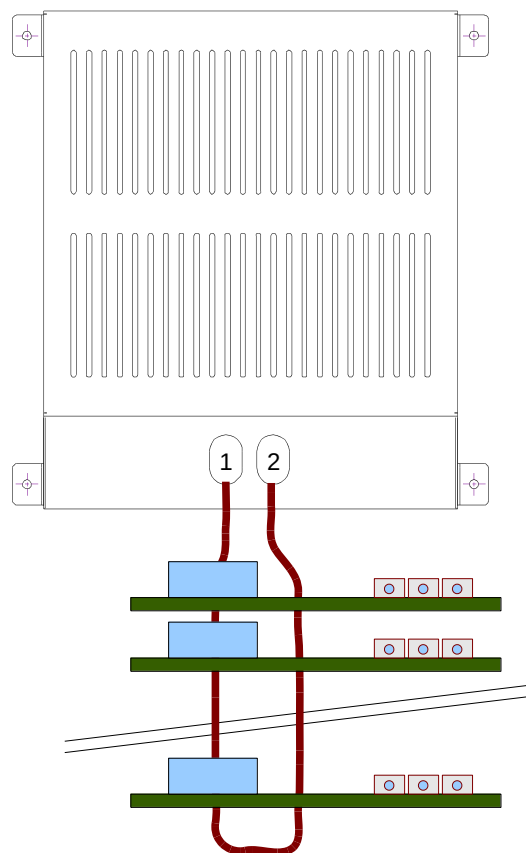


3. Function

3.1. Instructions for use

- Make sure that the device works correctly before using in a critical application.
- Consult the according datasheet for the correct optical power for the application you want to operate with this device
- Do not connect optical cables when light is on
- Check type and number of external loads with factory before using
- Check cable length and inductance with factory before using
- Make sure that all the external loads work correctly before using in a critical application

3.2. Closed loop connection



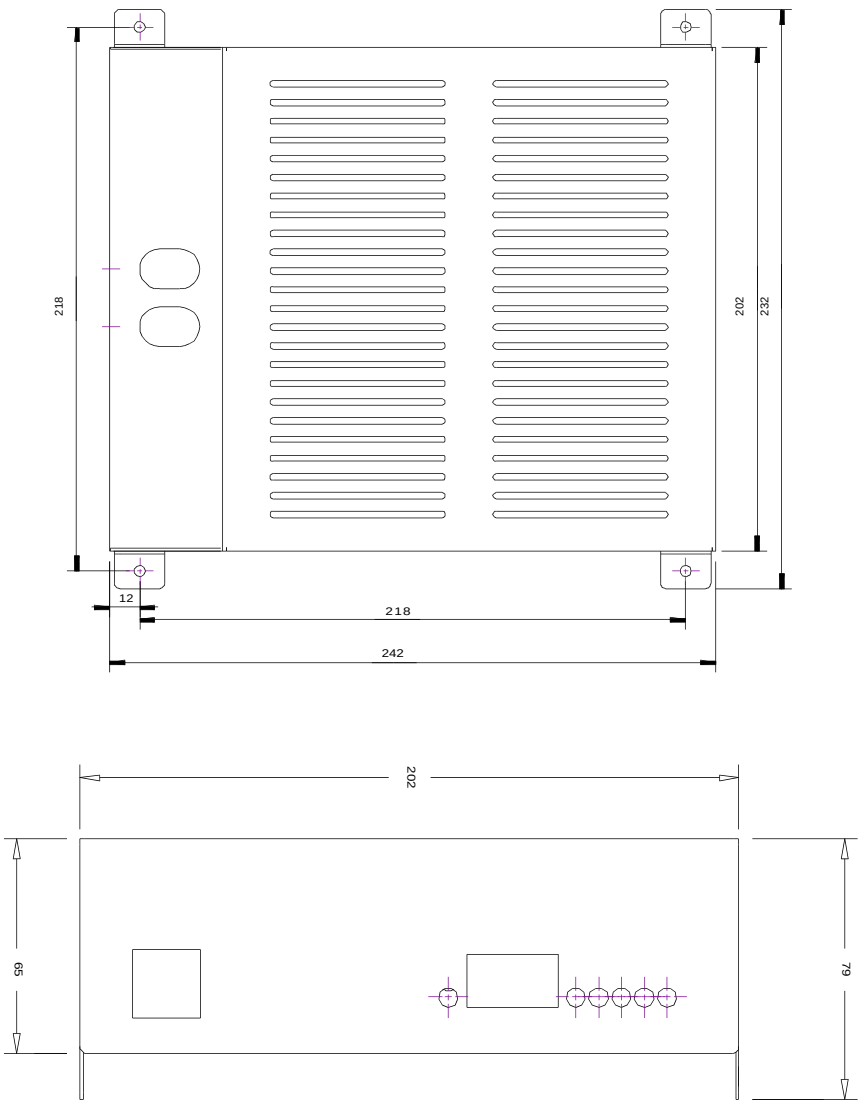
External loads such as gate units and voltage sources as well as HV cable do not belong to scope of supply. To be ordered separately.

4. Mechanical

4.1.Parameters

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Weight	m	-		0.9		kg
Dimensions	WxLxH	-		232 x 242 x 79		mm

4.2.Mechanical Drawing



4.3.Labels

4.3.1. Front side

- Aux. power
- Ready
- SF PS
- SL PS (slave models only)
- SL failure
- V_{in} high
- V_{in} low
- V_{Logic} failure
- Overtemperature

4.3.2. Rear side

- Nothing

4.3.3. Bottom side

- Type label with serial number

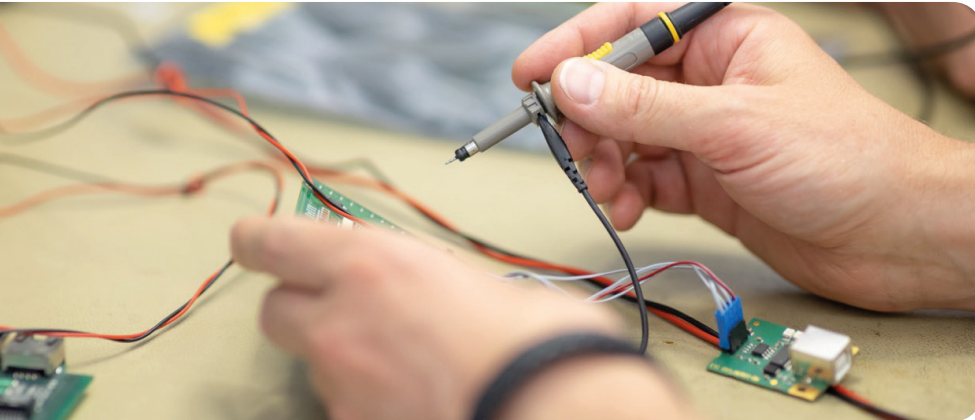
4.3.4. Top side

- Terminal (1, 2)
- Type label with serial number

5. Order code

Current source	Order code	Master / Slave	Status Feedback	Status Loop	V_{in} Max
CS-200W4A-01	AA-10253-001	Master	Glass Fibre	-	72VDC
CS-200W4A-02	AA-10253-002	Slave	Glass Fibre	Glass Fibre	72VDC
CS-200W4A-11	AA-10253-011	Master	POF	-	72VDC
CS-200W4A-12	AA-10253-012	Slave	POF	POF	72VDC
CS-200W4A-21	AA-10253-021	Master	Glass Fibre	-	135VDC
CS-200W4A-22	AA-10253-022	Slave	Glass Fibre	Glass Fibre	135VDC
CS-200W4A-31	AA-10253-031	Master	Glass Fibre	-	72VDC

About Astrol



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Our main focus lies on power switching in the medium voltage range, from optimized gate drive units to fully integrated solutions of up to 100kV. Our products are designed, manufactured and tested in our production location and high voltage test laboratory in Othmarsingen and therefore are able to withstand harsh environments, extended temperatures and have a long lifetime.

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