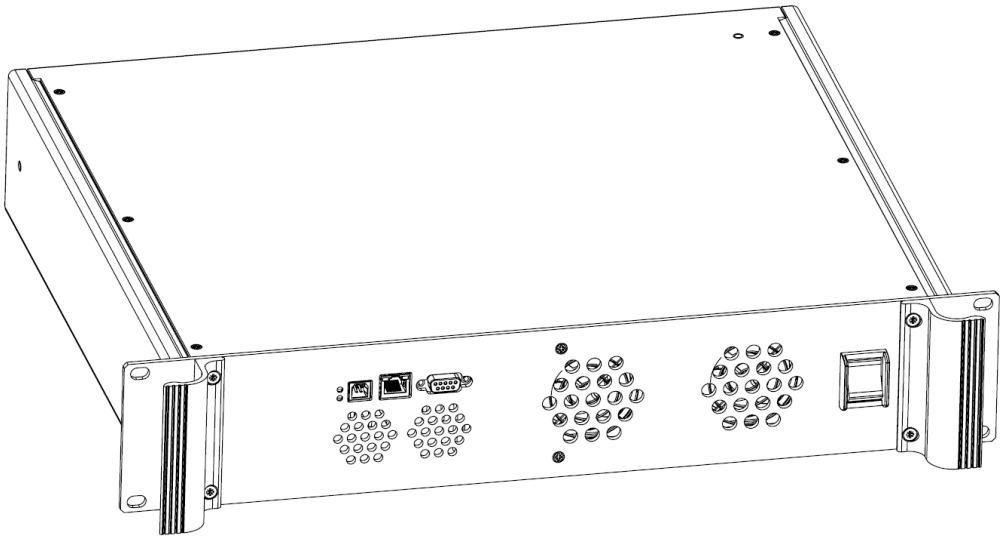
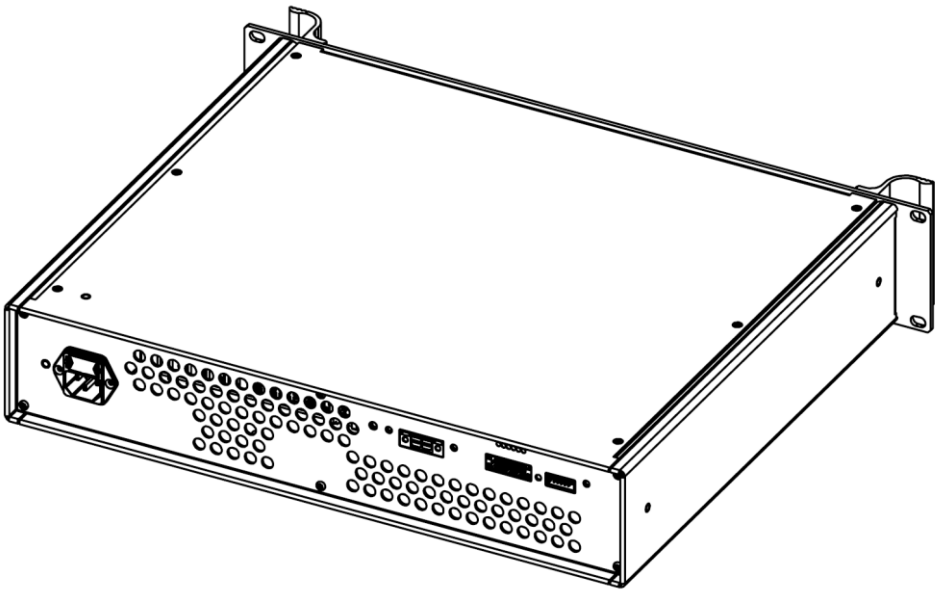
Technical Information
DCS-2K 100V 10A

HW version1912
SerialNr 545A





Input	min	typ	max		
Voltage	180	230	264	V AC	
Frequency	47	50	63	Hz	
Power			1200	W	
Powerfactor	0.9				At >300W
Current			10	A	
Fuse					2pcs T10A 5x20mm
Appliance class					I

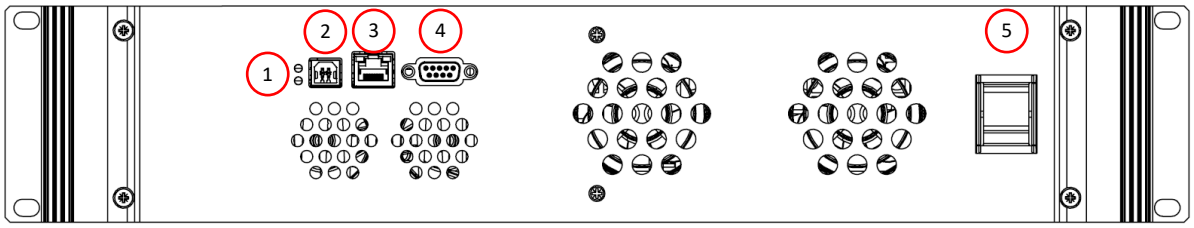
Output	min	typ	max		
Voltage	-100		100	V	
Current	-10		10	A	
Sink Energy			40	J	periodic
Sink Energy			1000	J	Single Pulse

Mechanical /Environmental		
Type	19” Rack-mount	
Depth	365mm	Without plugs
Height	2U (88mm)	
Weight	8.4Kg	
Ambient Temperature	0°C … 40°C	
Ambient Humidity	<70% r.H.	Non-condensing

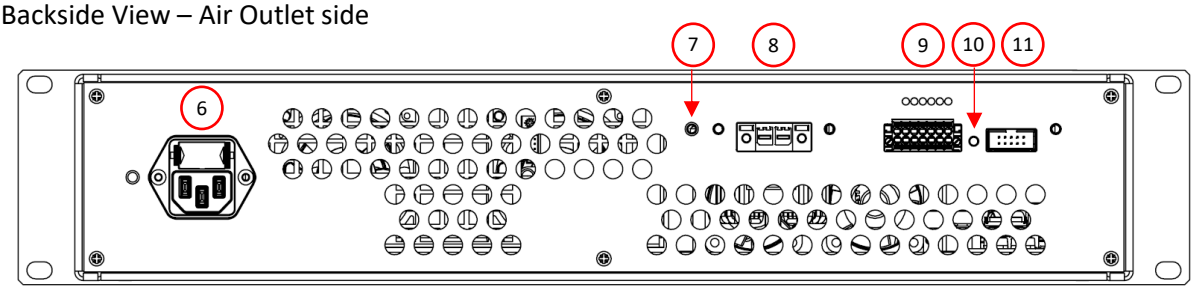
Document History			
Date	Version	By	Remark
18.06.2020	1	AB	Document Creation

Connectors and Operating Elements

Frontside View – Air Intake side



Backside View – Air Outlet side

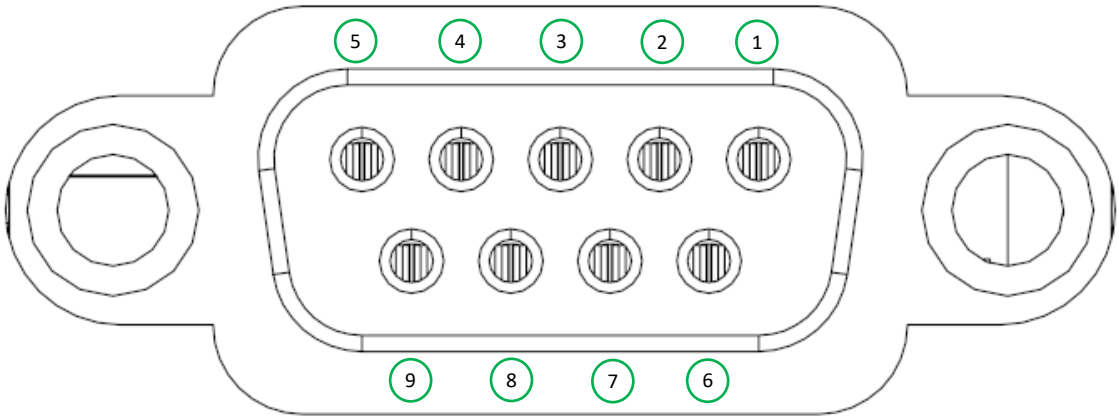


	Type	Function
1	LED	Top: LED “On/Off”, Bottom: LED “Current Error”
2	USB-B	USB COM Interface
3	RJ45	TCP/IP Interface
4	D-Sub DE-9 Female 4-40 screw	Analogue Handshake
5	Switch	Main Switch On/Off

	Type	Function
6	IEC 60320-1 C14	Mains Connector
7	M5 Internal Thread	Device Earth – max. 10mm depth in Device
8	Weidmüller 1928500000	Output to Coil
9	Phoenix Contact 1787069	Interlock/Reset
10	Push-Button	Reset
11	DIN 41651 2*5 Pin Male	Digital Expansion Header

Pinout

Analogue Handshake

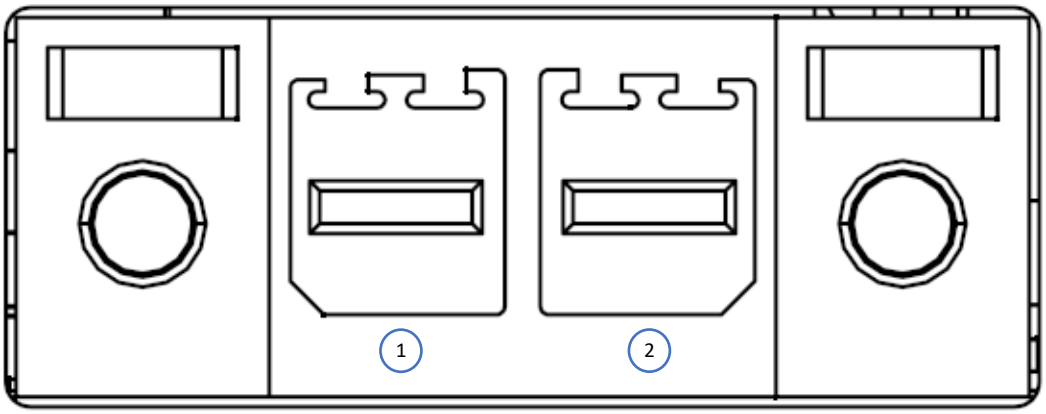


Fixing screws UNC 4-40

1	Signal Input +	4	Error Output	7	VDD
2	Signal Shield	5	GND	8	Trigger Output
3	Trigger Input	6	Signal Input -	9	Sync Output

Voltage Level	min	typ	max		
VDD <-> GND	2.5		30	V	From external Supply
Digital Out <-> GND	0		30	V	
Digital In <-> GND	0		30	V	
High-Level Input	2.0			V	
Low-Level Input			0.8	V	
Signal + <-> Signal -	-10		10	V	
Signal +/- <-> Signal Shield	-12		12	V	
Any Pin <-> PE/Case			150	V	
Impedance					
Digital Input Impedance		10		kΩ	-> GND
Digital Output Impedance		2.2		kΩ	-> VDD
Digital Output Type					Open Drain
Output Sink Current			40	mA	
Signal Impedance		10		kΩ	

Output



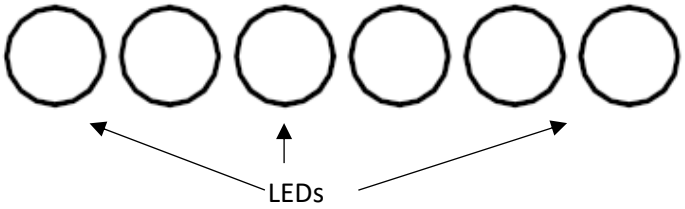
1	- Negative out
2	+ Positive out

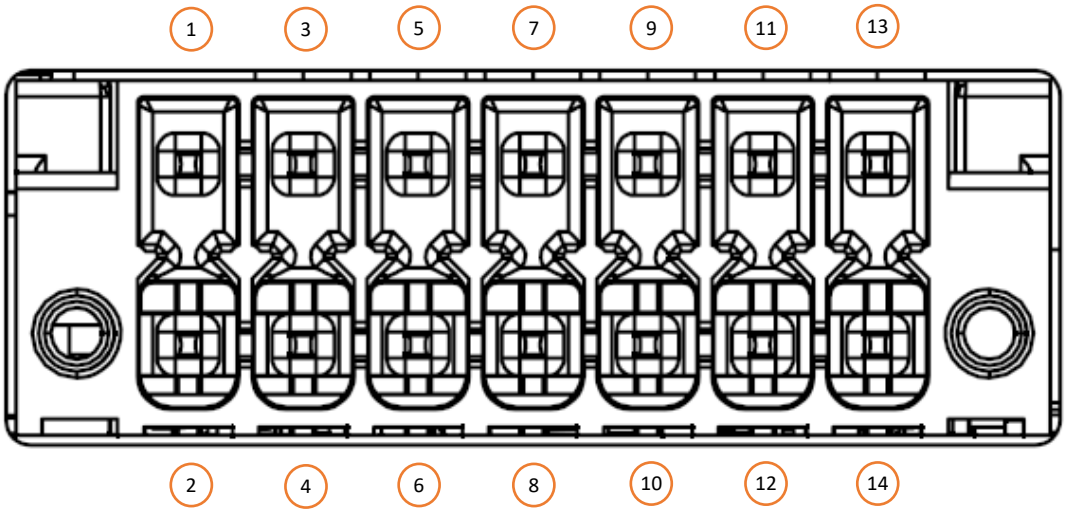
Counterpart: Weidmüller 1932180000
0.2 … 10 mm² screw terminal

Note: The Plug Provides two locking mechanisms: The two red snap-fit lockers on the side and additionally two screws, that can be used to assure proper mechanical connection. Disconnecting the load while in use can result in electric arcs and damage to the device and the user. **Make sure the connector cannot be unplugged accidently.**

See https://youtu.be/w8-Ai8Cd-s4 for further Information.

Interlock/Reset





1	AUX PWR +12V		
2	AUX PWR GND		
	Inputs		Outputs
3	Enable A +	9	AllOK 13
4	Enable A GND	10	AllOK 14
5	Enable B +	11	Safe 23
6	Enable B GND	12	Safe 24
7	Reset +	13	(not used yet)
8	Reset GND	14	(not used yet)

Every Input/Output has a LED, showing the actual State. Enable: Red/Green, others: off/green

AUX PWR	min	typ	max		
Uout		12		V DC	
Imax			50	mA	
Input					
Input + <-> GND	0		60	V	
High-Level Input	8.25			V	
Low-Level Input			7.1	V	
Input Current	2.3	2.5	2.7	mA	High-Level
Output					
Output Type					Relais
Umax			100	V	
Imax			3	A	

Isolation	min	typ	max		
Pair 1 +/GND <-> Pair 2 +/GND			100	V	
Pair +/GND <-> PE/Case			150	V	

Counterpart: Phoenix Contact 1790344
0.2 ... 1.5 mm² Push-in spring connection

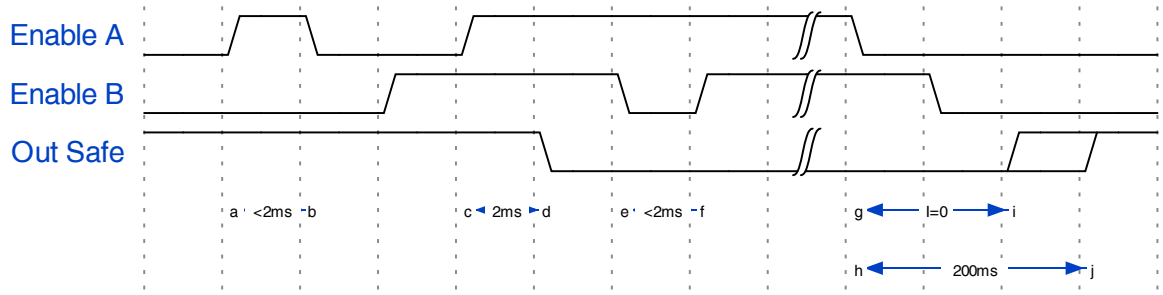
Interlock Function

To enable the power output of the device, both enable inputs (Enable A and Enable B) must be logic high. The input circuit draws a current of approx. 2,5mA to ensure a proper connection.

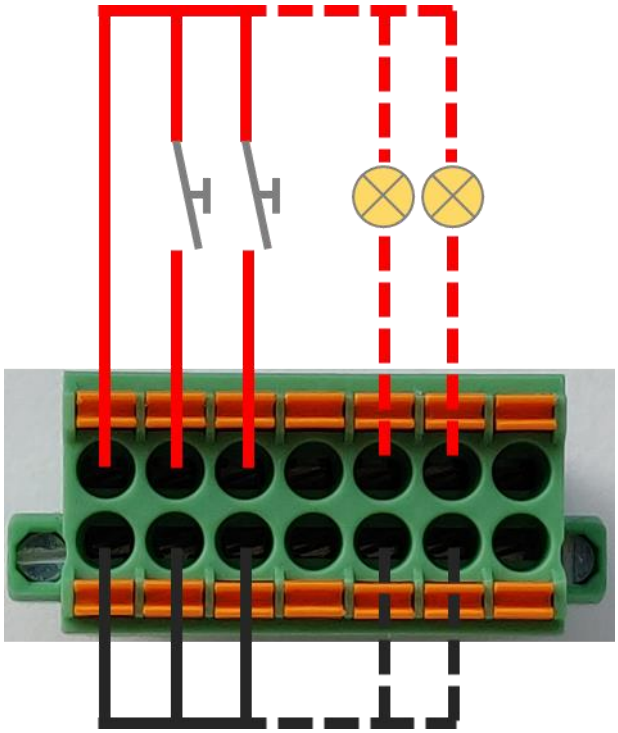
When at least one of the enable inputs is logic low for more than 2ms, the power output turns off. In the first stage, the device tries to set an output current of 0A. After 100ms the device turns off the Power transistors, the safe output of the interlock connector turns on, indicating a safe-state of the device.

Additionally, after 200ms, the control voltage for the power-transistors will be cut off to assure a safe state, even if the controller is not able to do so because of a software or hardware error. This will also result in turning on the "safe output" on the interlock connector.

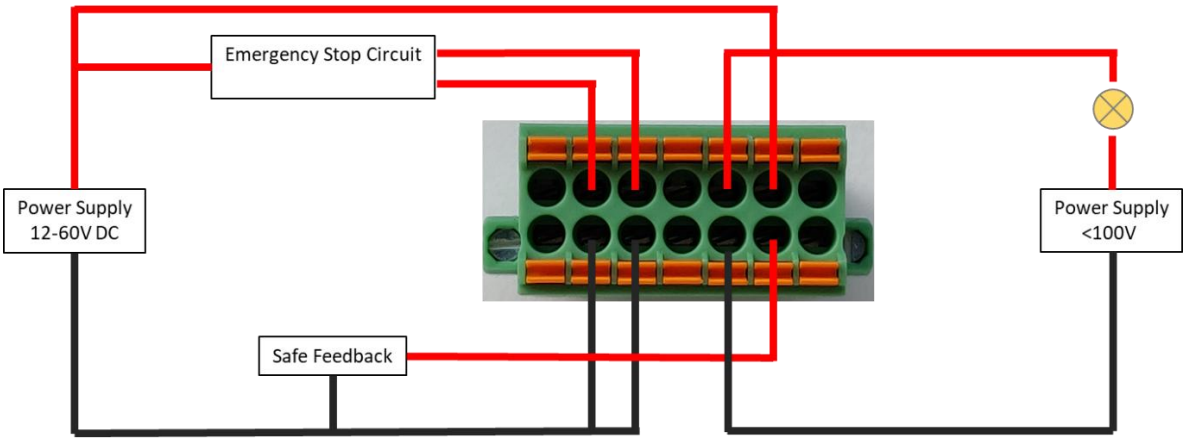
NOTE: when driving high inductive loads with high currents, turning off the power transistors can lead to an overvoltage and irreversible damage of the device. **Make sure, the Energy stored in the Coil is less than the maximum Sink Energy at any time.**



Enable/Reset Connection Example



12V AUX power on pins 1&2 are used to power the two enable Inputs. Therefor the Grounds of the Inputs have to be connected to the AUX Ground. Additionally, Signal Elements like Lights or Relays for the AllOK and OutSafe Outputs can be powered from the AUX Power.



The Enable/Reset Interface can also be driven from an external power supply, e.g. a 24V PLC power supply. All the inputs and outputs are galvanic isolated, allowing the user to connect various voltages from multiple power supplies.