Techn. data	EHQ 8005 - F
Output current I_O	max. 15 mA (at 300 V)
Output voltage V_O	0 to 500 V
Floating	Connector (V-) to GND: $\leq \lvert 63\ V \rvert$ Connector (V+) to GND: $\leq \lvert 63\ V + V_O \rvert$
Ripple & noise	f = 10 Hz to 100 kHz: < 10 mV f > 100 kHz: < 2 mV (at max. load and V_O > 50 V)
Hardware current limit I_{max}	Potentiometer internal
Interface	CAN-Interface
Voltage setting	Via software, resolution 10 mV
Voltage measurement	Via software, resolution 10 mV
Current measurement	Via software, resolution 300 nA
Accuracy of voltage measurement	± 20 mV

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Techn. data	EHQ 8005 - F
Accuracy of current measurement	$\pm$ (0,005% $*$ $\mathbf{I_O}$ + 0,005% $*$ $\mathbf{I_{O\ max}}$ + 1 digit)
Temperature coefficient	< 5 $*$ 10^{-5} $\mathbf{/_K}$
Stability	< 20 mV (no load/load and Δ $\mathbf{V_{IN}}$)

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Techn. data	EHQ 8005 – F
Rate of change of output voltage	Via software: 0,2 V/s to 50 V/sresolution 0,5 V
Channel control via software	Status 8 bit: channel error, KILL- enable, channel emergency cut-off, ramp, channel on/off, input error, current trip
8 channels error control via software	Current limit: "Channels 0-7 OK" is signalled if these limits do not exceed on each single channel
Error signal	Green LED at "Channels 0-7 OK"
Protection loop (I_s) (2 pin Lemo-socket)	5 mA < I_s < 20 mA ⇒ module on I_s < 0,5 mA ⇒ module off
Power requirements V_{IN}	+ 24 V (<4 A) and + 5 V (< 1,3 A)
Packing	8-channels in 6U Euro cassette (40,64 mm wide and 220 mm deep)
Connector	96-pin connector according to DIN 41612
HV connector	32-pin Erni Multipin-Connector

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Technical data	EHQ 20 025_204
Output current I_O per channel at V_O	max. 200 µA
	0 to 2500 V
Ripple and noise	f = 10 Hz to 100 MHz: < 20 mV (at max. load) under two conditions: - at V_O > 400 V and - the different voltage between the channels must be less than 1400 V_O, e.g. $\mathbf{V_{O\ CH31}}$ = 2500 **V** ⇒ $\mathbf{V_{O\ CHn}}$ ≥ 1100 V; (n= 0 to 30)
Current limit I_{max}	Potentiometer (I_{max} is the same for 16 channels)
Interface	CAN-Interface
Voltage setting	via software, resolution 50 mV
Voltage measurement	via software, resolution 50 mV
Current measurement	via software, resolution 4 nA

Technical data	EHQ 20 025_204
Accuracy of voltage measurement	$\pm$ (0,01% $*$ V_O + 0,01% $*$ $\mathbf{V_{O\ max}}$ + 1 digit) for one year
Accuracy of current measurement	$\pm$ (0,1% $*$ I_O + 0,4% $*$ $\mathbf{I_{O\ max}}$ + 1 digit) for one year
Temperature coefficient	$< 5 * 10^{-5} I_K$
Stability	$< 5 * 10^{-5}$ (no load/load and Δ $\mathbf{V_{IN}}$)

Technical data	EHQ 20 025_204
Rate of change of output voltage via software	0,5 V/s to 125 V/s, resolution 0,5 V/s 125 V/s to 250 V/s, resolution 5 V/s
Channel control via software	Status 8 bit: voltage and current limit, KILL- enable, channel emergency cut-off, ramp, channel on/off, input error
16 Channels error control via software	voltage limit current limit 16 Channels OK is signalled if these limits do not exceed on each.)
Error signal	Green LED at ″16 Channels OK″
Protection loop (I_s) (2 pin Lemo-socket)	5 mA < I_s < 20 mA ⇒ module on I_s < 0,5 mA ⇒ module off
Power requirements V_{IN}	+ 24 V (<1 A) and + 5 V (< 1,3 A)
Packing	32 channels in 6U Eurocassette, width = 40.3 mm, depth = 220 mm
Connector	96 pin connector according to DIN 41612
HV connector	32 pin Redel Multipin-Connector

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CAN Commands:

The module EHQ 20 xxx is software controlled with the data frames as follow:

EXT_ INSTR	DATA_DIR	DATA_ID Bit								Access	read/write/active	DATA Bytes
ID1	ID0	7	6	5	4	3	2	1	0			
	x	**0**	x	x	x	x	x	x	x	**No DATA_ID**		
x	**x**	**1**	**0**	**C1**	**C0**	**N3**	**N2**	**N1**	**N0**	**Single access CHANNEL:**		
1	1/0	1	0	0	0	N3	N2	N1	N0	Current trip	r/w	3
0	1	1	0	0	0	N3	N2	N1	N0	Actual voltage	r	3
0	1	1	0	0	1	N3	N2	N1	N0	Actual current	r	3
0	1/0	1	0	1	0	N3	N2	N1	N0	Set voltage	r/w	3
0	1	1	0	1	1	N3	N2	N1	N0	Status channel	r	3
		1	**1**	**C3**	**C2**	**C1**	**C0**	**G1**	**G0**	**Group access module**		
1	1/0	1	1	0	0	0	0	0	0	Voltage supplies and module temperature	r/w	8
0	1/0	1	1	0	0	0	0	0	0	General status module	r/wa	2
0	1	1	1	0	0	0	1	0	0	Status1 Voltage limit has been exceeded at single channel	r	3
0	1	1	1	0	0	1	0	0	0	Status2 Hardware current limit has been exceeded at single channel	r	3
0	1/0	1	1	0	0	1	1	0	0	Channel ON / OFF	r/w	3
0	1/0	1	1	0	1	0	0	0	0	Ramp speed	r/w	3
0	0	1	1	0	1	0	1	0	0	Emergency cut-off	w	3

EXT_ INSTR	DATA_DIR	DATA_ID Bit								Access	read/write/active	DATA Bytes
	ID0	7	6	5	4	3	2	1	0			
a	1	1	1	0	1	1	0	0	0	Log-on Front-end device in superior layer		2
w	0	1	1	0	1	1	0	0	0	Log-off superior layer at Front-end device		2
r/w	1/0	1	1	0	1	1	1	0	0	Bit rate		3
r/w	1/0	1	1	1	0	0	0	0	0	Serial number, software release and CAN message configuration		6/2
w	0	1	1	1	0	0	1	0	0	Set voltage for all channels		3
0	1	1	1	1	0	1	0	0	0	Read hardware current limit	r	3
0	1/0	1	1	1	0	1	1	0	0	KILL-enable	r/w	3
0	1/0	1	1	1	1	0	0	0	0	ADC filter setting	r/w	3
0	1	1	1	1	1	0	1	0	0	Module nominal values	r	5
0	1	1	1	1	1	1	0	0	0	Status3 SW current trip has been exceeded at single channel	r	3
C_i: Accesses												
N_i 0 to 15: Channel 0 to 15												
G_i: 0 to 3: Group 0 to 3 / Only needed if group controller (GC) used												