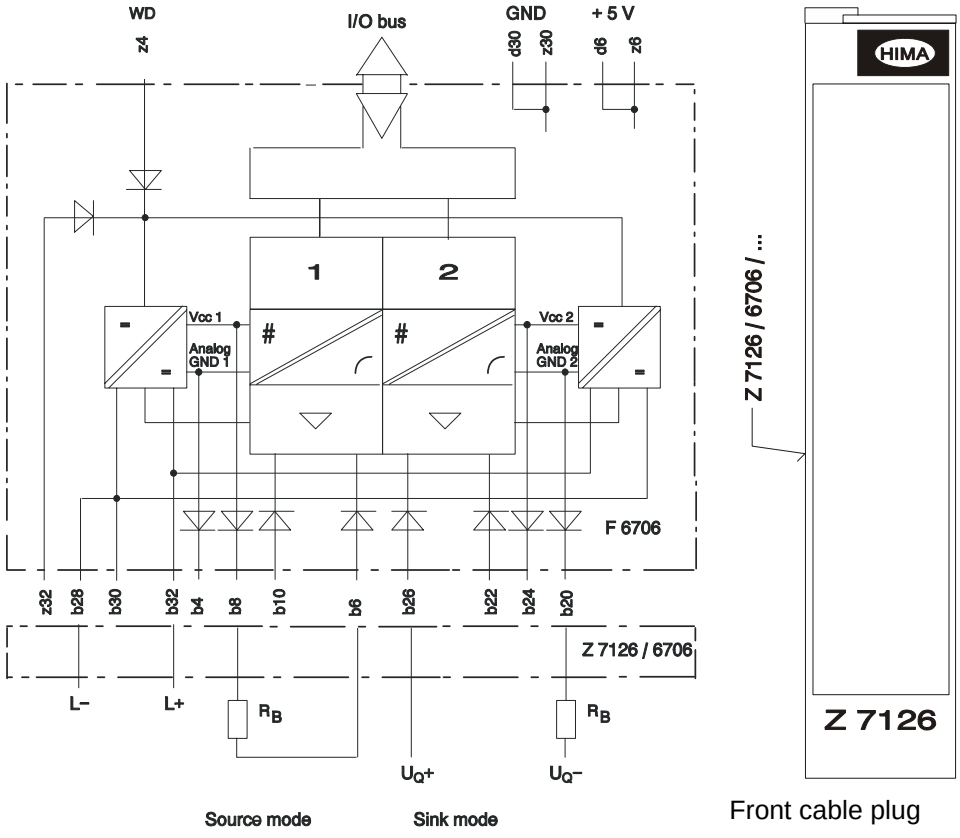
F 6706

F 6706: 2-channel converter digital/analog

- Outputs: 0/4...20 mA, individual electrical isolation,
- with safe isolation,
- for source or sink mode

1 Overview



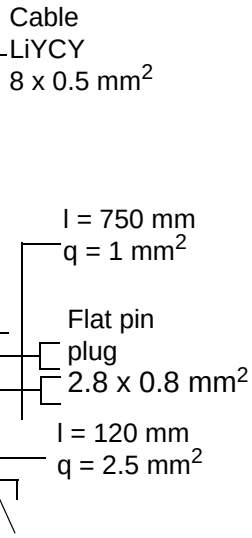
Block diagram

Figure 1: Block diagram and front cable plug

Resolution	12 bits (4095 steps) 0 = 0 mA, 3840 = 20 mA, 4095 = 21.3 mA
Burden R_B	
source mode	≤ 750 Ohm incl. line resistance to the burden pins b8-b6 or b24-b26
sink mode	≤ (U_Q - 5 V) / 21.3 mA U_Q = source voltage pins b4-b6 or b20-b26
Basis error	≤ 0.1 % (20 µA) at 25 °C
Operating error	≤ 0.4 % at 0...+60 °C

Line length	max. 1000 m (observe burden)
Electric strength	250 V against Analog GND
Basis status at plug-in	$I \leq 20\ \mu A$
Source voltage U_Q (sink mode)	10...30 V
Space requirement	4 SU
Operating data	5 VDC / 40 mA, 24 VDC / 100 mA

Channel	Connection	Colour
1	b8 b6 b4 b10	WH BN PK GY
2	b24 b22 b20 b26	GN YE RD BU
L– L+	b28 b32	BK RD
Cable screen		YEGN



Flat pin plug 6.3 x 0.8 mm (of the cable screen), to be connected to the earth bar under the slot

Lead marking cable plug
Z 7126 / 6706 / C..

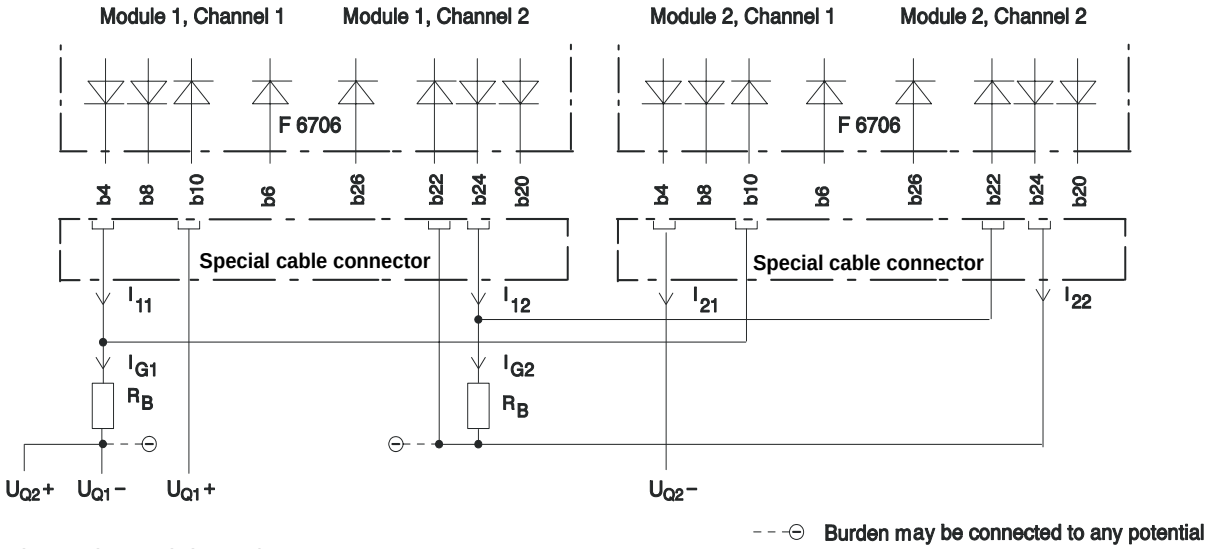
Note: To avoid failures of the module unused channels must be terminated by the bridge

b6 - b8	for channel 1
b22 - b24	for channel 2

Figure 2: Lead marking cable plug

2 Current connection

2.1 Bipolar current connection



Channels 1: Sink mode
Channnel 2: Source mode

Figure 3: Bipolar current connection

The bipolar current connection serves the output of currents between -20 mA to +20 mA. The following must be considered:

– The total current is the addition of the individual currents
  $I_{G1} = I_{11} - I_{21}$ or $I_{G2} = I_{12} - I_{22}$.
– The admissible burden resistance remains the same.
– Module 1 generates the positive part and module 2 the negative part of the total current.
– In reasons of accuracy, only one module may generate or consume current. This must be regarded in the user program.

2.2 Current outputs

Resolution in the range 0/4 - 20 mA

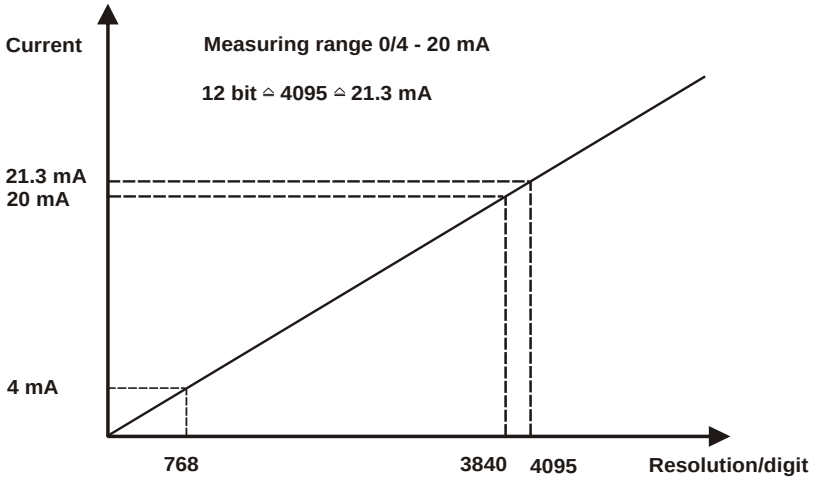


Figure 4: Current outputs