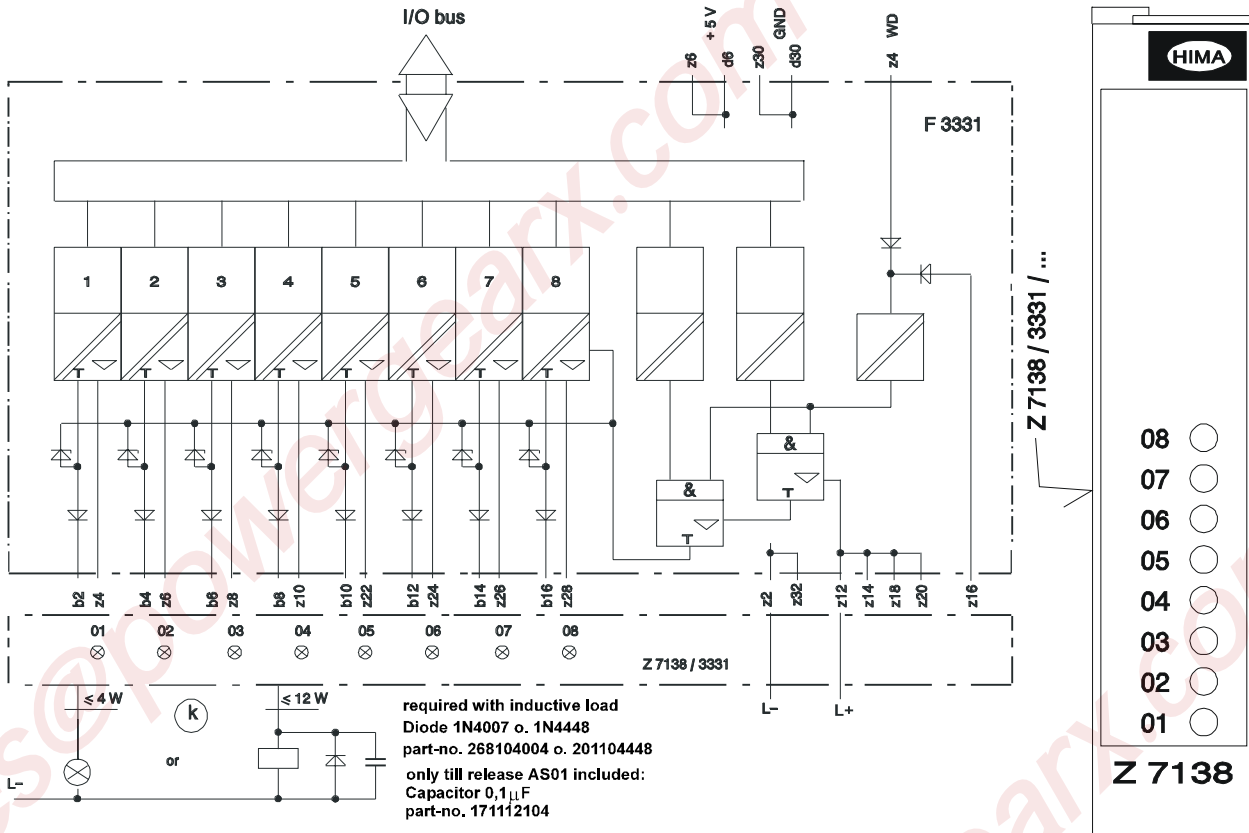




F 3331

F 3331: 8 fold output module, testable safety related

resistive load or inductive load up to 500 mA (12 W),
 lamp connection up to 4 W,
 with integrated safety shutdown, with safe isolation,
 with line monitoring,
 no output signal with break of the L- supply
 requirement class AK 1 ... 6



Block diagram

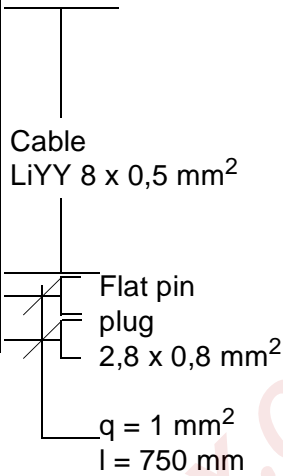
Front cable plug

The module is automatically tested during operation. The main test routines are:

- Reading back of the output signals. The operating point of the 0 signal read back is ≤ 6.5 V. Up to this value the level of the 0 signal may arise in case of a fault and this will not be detected
- Switching capability of the test signal and cross-talking (walking-bit-test)
- line monitoring.

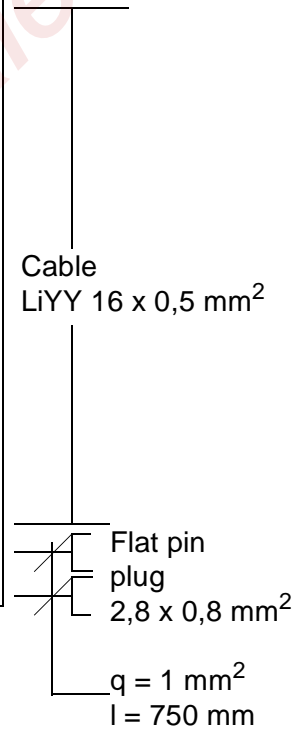
Outputs	500 mA, (k) short circuit proof
Internal voltage drop	max. 2 V at 500 mA load
Admissible line resistance (in + out)	max. 11 Ohm
Undervoltage tripping	at ≤ 16 V
Operating points (component tolerances effects value diff.)	
short circuit current	0.75 ... 1.5 A
line break	0.5 ... 9.5 mA
Outp. leakage current	max. 350 μ A
Output voltage if output is reset	max. 1.5 V
Current input WD	max. 30 mA
Duration of the test signal	max. 200 μ s
Space requirement	4 TE
Operating data	
	5 V DC: 130 mA
	24 V DC: 180 mA in add. load

Channel	Connection	Colour
1	b2	ws
2	b4	br
3	b6	gn
4	b8	ge
5	b10	gr
6	b12	rs
7	b14	bl
8	b16	rt
L-	z2	sw
L+	z12	rt

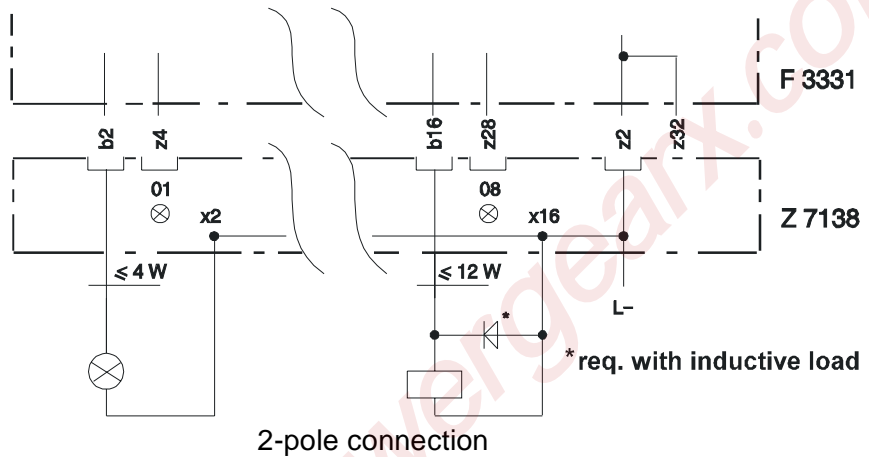


Lead marking of the cable plug
Z 7138 / 3331 / C..

Channel	Connection	Colour
1	b2	br
2	x2	ws
3	b4	ge
4	x4	gn
5	b6	rs
6	x6	gr
7	b8	rt
8	x8	bl
9	b10	vio
10	x10	sw
11	b12	ws-gn
12	x12	ws-br
13	b14	ws-gr
14	x14	ws-ge
15	b16	ws-bl
16	x16	ws-rs
L-	z2	sw
L+	z12	rt



Lead marking of the cable plug
Z 7138 / 3331 / C.. / P2
2-pole connection



Planning hints

- line break monitoring requires a minimum load of 10 mA. Use of the signal "line break" in the user's program up to requirement class 3.
- max. 10 output modules with nominal load may be used in one IO rack
- can be paralleled without external diodes
- Appertaining softw. building block: HB-BLD-. (for current version refer to the description of the operating system).