General Specifications

TI-540-02

GS48C40Z02-00E-N

Timer Module (0.5 sec - 70 h)

■ GENERAL

This timer module has two multiple function timers with logic pulse input and output and is suitable for a wide range of timer settings.

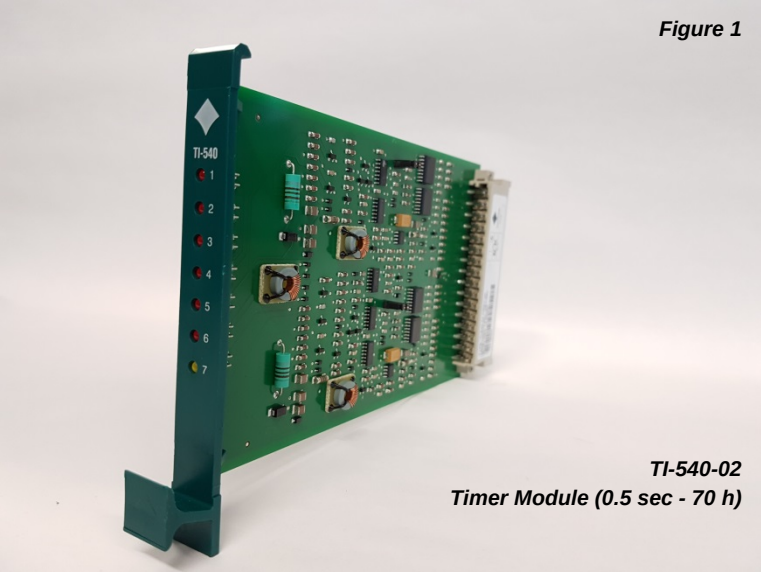


Figure 1

TI-540-02
Timer Module (0.5 sec - 70 h)

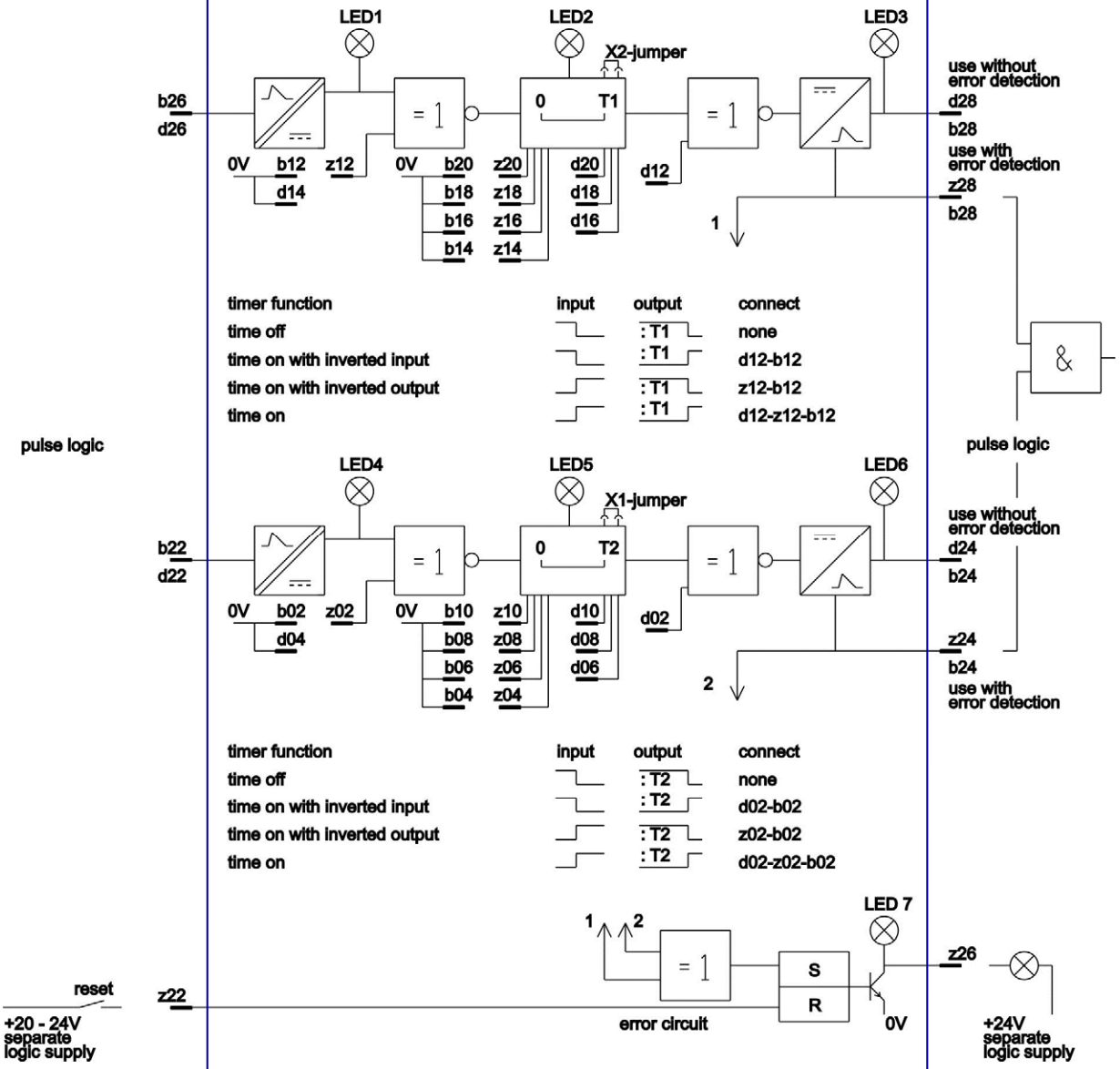
The timer counts back to zero from a value set by the connector strapping. The timer is suitable for various time functions. For Fail-Safe applications the two timers should be wired to a 2 input AND gate.

The module is equipped with monitoring circuitry for redundant use. If the monitoring function is used, both pulse outputs are compared. Disparity between signals results in an annunciation, which is held in a memory circuit until the next reset. The annunciator circuit is galvanically connected with the logic voltage.

The module is provided with 6 red LEDs and 1 yellow LED, indicating the signals: input, output, timer running and error condition.

1st Edition January 2017

■ FUNCTIONAL DIAGRAM



Supply

z32	not used
z30	not used
b32	20 Vdc logic
d32	0 Vdc logic
d30	A voltage pulse
b30	not used

Notes

The output LEDs 3 and 6 represent the output current.
Pins z12, d12, z02 or d02 not connected is a logical one.

By removing X2, X1 jumpers the time setting of channel 1, 2 will be reduced with a factor of 256 (test purpose only).

Front

1	input circuit 1
2	timer 1 running
3	output circuit 1
4	input circuit 2
5	timer 2 running
6	output circuit 2
7	error ye
8	

■ SPECIFICATIONS

Description		Data
General	Number of channels	2
	Width	3HP
	Identification	TI-540 on front and more detailed on connector label
	Weight	105 gram
Input	Input pulse Unit load Status indication Reset	Current pulses 500 mA 1 Red LED per input 24 Vdc ± 20%, 1 mA
Output	Output logic Capacity Status indication	Current pulses 500 mA 10 unit loads Red LED per output
	Running indication	Red LED (blinking) per channel
	Error output Error indication	Current sink 10 mA Yellow LED per module
	Timing error	+0.1..+0.2% (± 2.25% with use of the CL-530-01)
Propagation	Type	On delay / off delay
	Reset time	1 msec. time off, time on inv. input 8 msec. time on, time on inv. output
Supply	Logic supply	20 Vdc < 10 mA
	Clock	A pulse, level 0 / 20 V
Dissipation		< 0.2 W

■ Time strapping

Connections	Time settings											
circuit 1:	h	m	sec		h	m	sec		h	m	sec	
a: z14-b14			0.5	abcd efg		1	38.3	a..d ef.	1	5	32.2	.bc. ...
b: z16-b16			1	abc. efg		1	46.5	a.cd ..g	1	9	54.3	..c. efg
c: z18-b18			1.5	abcd ef.		1	54.7	a.c. e..	1	18	38.6	.b.d .fg
d: z20-b20			2.1	ab.d efg		2	2.9	a.cd ...	1	27	22.9	.b.. e.g
			2.6	abcd e.g		2	11.1	.bcd efg	1	36	7.2	.b.d .f.
e: d20-b20			3.1	abc. ef.		2	27.5	a.c. .fg	1	44	51.5	..cd ef.
f: d18-b18			3.6	abcd e..		2	43.8	a..d e.g	1	53	35.7	.b.d ..g
g: d16-b16			4.1	ab.. efg		3	0.2	a.c. .f.	2	2	20	.b.. e..
			4.6	abcd .fg		3	16.6	a... ef.	2	11	4.3	.b.d ...
			5.1	abc. e.g		3	33	a.c. ..g	2	19	48.6	...d efg
			5.6	abcd .f.		3	49.4	a..d e..	2	37	17.2	.b.. .fg
			6.1	ab.d ef.		4	5.8	a.c. ...	2	54	45.8	..cd e.g
			6.7	abcd ..g		4	22.1	.bc. efg	3	12	14.3	.b.. .f.
			7.2	abc. e..		4	54.9	a..d .fg	3	29	42.9	..c. ef.
			7.7	abcd ...		5	27.7	a... e.g	3	47	11.5	.b.. ..g
			8.2	a.cd efg		6	0.5	a..d .f.	4	4	40.1	..cd e..
			9.2	abc. .fg		6	33.2	.bcd ef.	4	22	8.6	.b.. ...
			10.2	ab.d e.g		7	6	a..d ..g	4	39	37.2	.... efg
circuit 2:			11.3	abc. .f.		7	38.8	a... e..	5	14	34.4	..cd .fg
			12.3	ab.. ef.		8	11.5	a..d ...	5	49	31.5	..c. e.g
a: z04-b04			13.3	abc. ..g		8	44.3	.b.d efg	6	24	28.7	..cd .f.
b: z06-b06			14.3	ab.d e..		9	49.8	a... .fg	6	59	25.8	...d ef.
c: z08-b08			15.4	abc. ...		10	55.4	.bcd e.g	7	34	23	..cd ..g
d: z10-b10			16.4	a.c. efg		12	0.9	a... .f.	8	9	20.1	..c. e..
			18.4	ab.d .fg		13	6.4	.bc. ef.	8	44	17.3	..cd ...
e: d10-b10			20.5	ab.. e.g		14	12	a... ..g	10	29	8.7	..c. .fg
f: d08-b08			22.5	ab.d .f.		15	17.5	.bcd e..	11	39	3	...d e.g
g: d06-b06			24.6	a.cd ef.		16	23	a... ...	12	48	57.3	..c. .f.
			26.6	ab.d ..g		17	28.6	.b.. efg	13	58	51.7	.... ef.
			28.7	ab.. e..		19	39.7	.bcd .fg	15	8	46	..c. ..g
			30.7	ab.d ...		21	50.7	.bc. e.g	16	18	40.3	...d e..
			32.8	a..d efg		24	1.8	.bcd .f.	17	28	34.6	..c. ...
			36.9	ab.. .fg		26	12.9	.b.d ef.	20	58	17.5	...d .fg
			41	a.cd e.g		28	23.9	.bcd ..g	23	18	6.1	.... e.g
			45.1	ab.. .f.		30	35	.bc. e..	25	37	54.7	...d .f.
			49.2	a.c. ef.		32	46.1	.bcd ...	30	17	31.9	...d ..g
			53.3	ab.. ..g		34	57.2	..cd efg	32	37	20.5	.... e..
			57.3	a.cd e..		39	19.3	.bc. .fg	34	57	9.1	...d ...
	1		1.4	ab.. ...		43	41.4	.b.d e.g	41	56	34.9	.... .fg
	1		5.5	a... efg		48	3.6	.bc. .f.	51	15	49.4	.... .f.
	1		13.7	a.cd .fg		52	25.7	.b.. ef.	60	35	3.8	.... ..g
	1		21.9	a.c. e.g		56	47.9	.bc. ..g	69	54	18.2	....
	1		30.1	a.cd .f.	1	1	10	.b.d e..				