Sales Info

Sales Information ·Vertriebsinformation:

From: Ian Collins · PMA sales@pma-online.de Phone *+49-(0)561/505-1307 Fax:1700*

TB 45-1 Temperature limiter / monitor

Summary

As a result of a recent product update to TB45-1 and the resulting re-certification, the following changes will take effect:

Updates to EN 14597(2009-1) mean the current TB 45-1 device can no longer be used as temperature limiter (TB) but only as a temperature monitor (TW) from February 2013 onwards!

In order to continue supporting TB 45 as a universal limiter the range will be enhanced with a new version (TB45-2), see tab.3. background and details are below. TB45-2 will be available from February 2013.

These changes apply only to the 'EN14597 / DIN3440 versions of TB45-1. For applications using 'standard' or 'UL' variations of TB45-1, the following instructions can be ignored.

Modified definition according to EN 14597 (formerly DIN 3440)

"Temperature control devices and temperature limiters for heat generating systems"

According to the latest release (EN14597, *2009-1*) a **temperature limiter** (TB) is no longer considered as operating equipment (temperature monitor) but now seen as **protective equipment** *which needs to meet higher requirements*

The most important requirement for a limiter TB has now been added: Any device or component must be failsafe and the supply to the plant switched off!

To meet these new requirements the hardware of the device needs to be reviewed and recertified. As part of this pending certification the existing unit will only receive a license as a temperature monitor TW.

So that TB45 can continue to be universally used as a TB or TW an additional version is available. This device supports most existing functionality within TB45-1 but has the following limitations:

- Single universal input versions will only be supported
- A 4-wire measurement is not possible for the resistance measurement

TB 45 as replacement for existing plants

Users still can order the current TB45-1 device, e.g. as replacement or retrofit, keeping their proven configuration and parameter settings and wiring (TB45-1xx-xxxxx; see version table tab.2).

The appropriate connection diagram can be found in Fig. 1.

But: According to the EN14597 this device now must be considered as **temperature monitor TW (!)**. So the configuration texts ***3*** and ***4*** have been renamed accordingly from **TB** to **TW** (*BlueControl*: <*configuration*>< *limit values*>< *function limit value LC* > ; see following table).

Configuration text	Acknowledgement	Order-No.	Connection
3: Monitor high latching	**x**	TB45-**1**xx-xxxxx	Fig. 1
4: Monitor low latching	**x**		
5: Monitor high		TB45-**1**xx-xxxxx →	Fig. 1
6: Monitor low		TB45-**2**xx-xxxxx →	Fig. 3
7: Limiter high latching	**x**	TB45-**2**xx-xxxxx	Fig. 2
8: Limiter low latching	**x**		

Tab. 1: configuration and dedicated device version

Important: ***Please check the safety requirements of your machine / plant!***

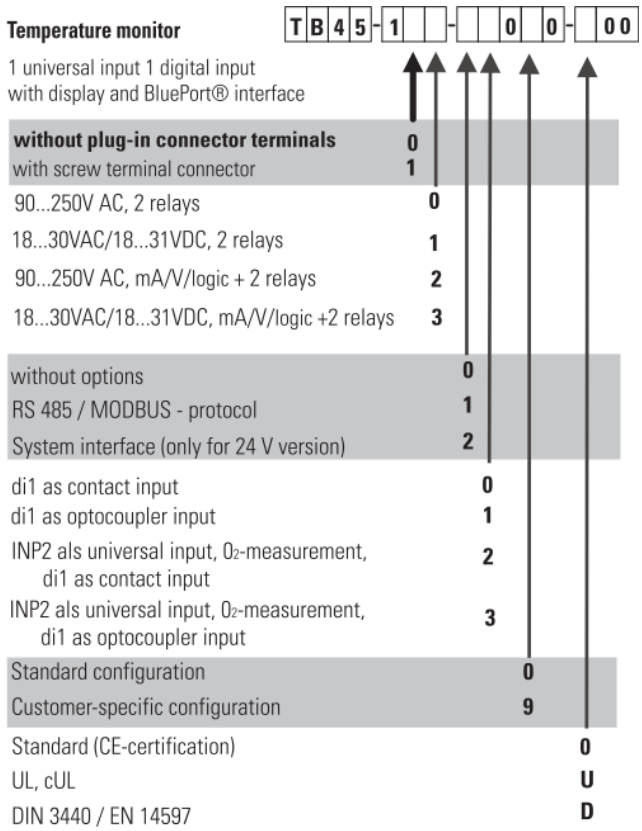
Is the usage of a temperature monitor still sufficient to comply to the required Performance Levels in respect to the SIL-class and the EC conformity mark, or is there a product standard (C-norm) requiring the use of a temperature limiter TB?

Application of the TB 45-2 as temperature limiter TB

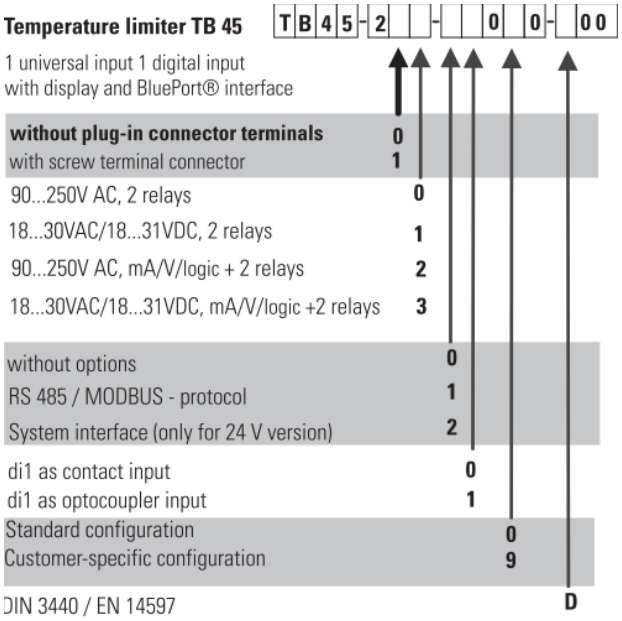
The version table was enhanced with one unit typeTB45-2 **temperature limiter TB** according to EN14597 (Tab. 3). To securely recognize any component failure, the following must be observed carefully by the user (connection diagram see Fig.2):

- Configure limit value LC to
  7: Limiter high latching OR
  8: Limiter low latching, →Tab.1!
- Use dual thermocouples, to recognize thermocouple short cut!
- Connect resistance thermometer according to Fig.2!
- Current/ Voltage input: Connect signal ranges **4**…20mA or **2**…10V and configure accordingly!

Ordering



Tab. 2 Order code for Temperature MonitorTB45-1



Tab. 3 Order code for Temperature Limiter TB45-2

Wiring

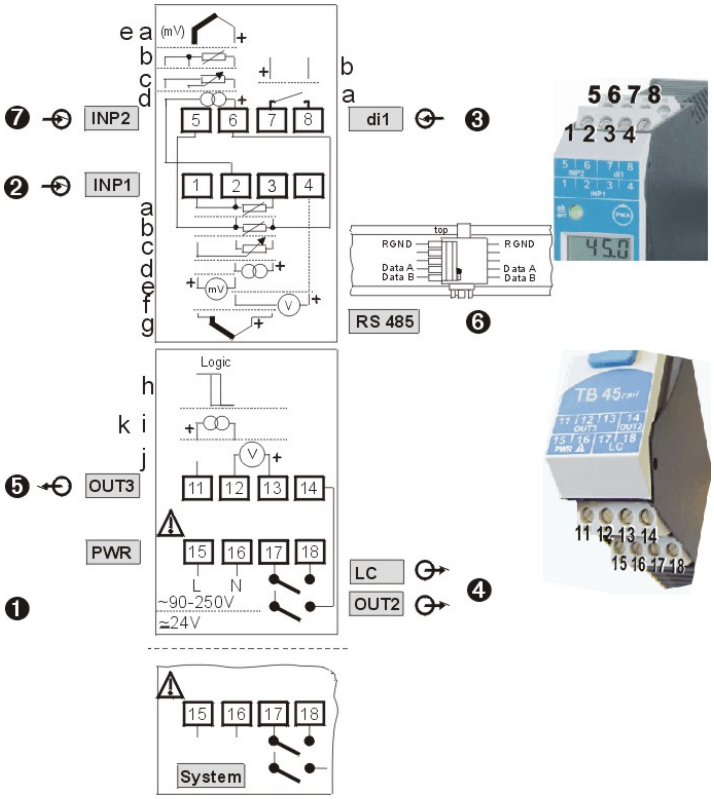


Fig 1: Former connection diagram TB 45
TB45-**1**xx-xxxxx
configuration **3** or **4** (Tab 1)

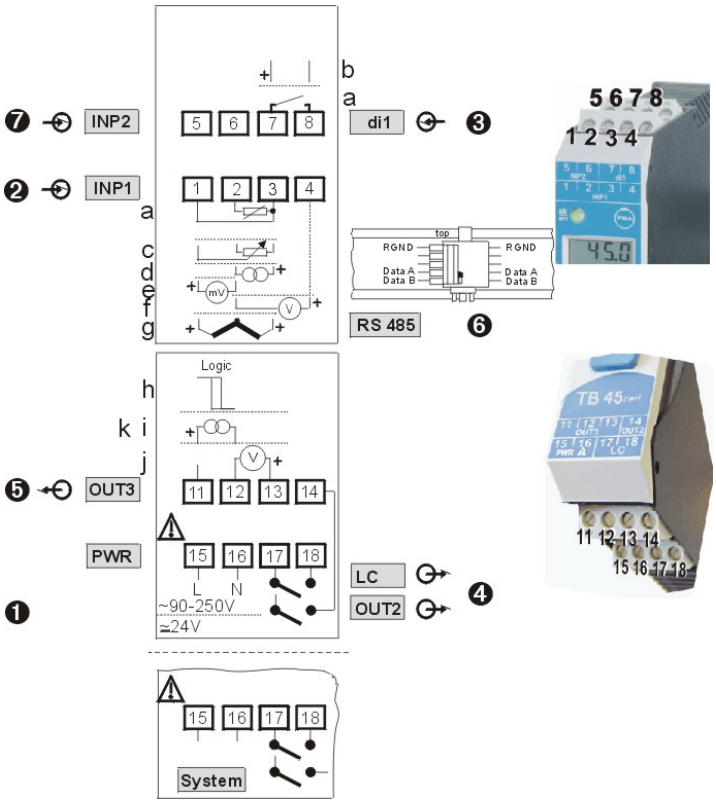


Fig 2: Connection diagram TB 45 EN14597 (2009-1)
TB45-**2xx**-xxxxx
configuration **7** or **8** (Tab 1)

Application of the TB 45-2 as temperature monitor TW

The device type **temperature limiter TB** (see version table) can be configured as **temperature monitor**. The connection of the 2nd thermocouple is omitted (clamps 2 –3).

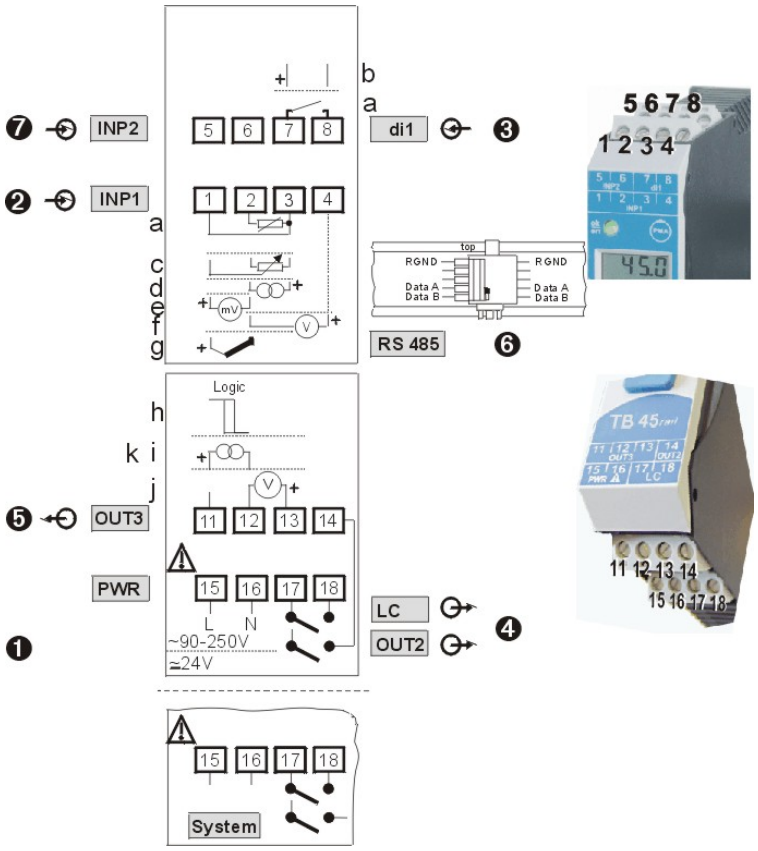


Fig 3: TB 45 used as a Temperature Monitor
TB45-**2xx**-xxxxx
configuration **5** or **6** (Tab 1)

Commercial Data

TB 45 application in the present version as **Temperature Monitor TW** : (TB45-1xx-xxxxx-xxx):	from Feb/2013
TB 45 application in the new version as **Temperature Limiter / - Monitor TB / TW**: (Product enhancement TB45-2xx-xxxxx-xxx)	from Feb/2013
BlueControl Version 3.3 SR3 (for the new version as Temperature Limiter / -Monitor)	from Feb/2013

Documentation *(according to the contents of this Sales Info !)*	**Device version**	
	Temperature monitor TB45-**1**xx-xxxxx	***Temperature limiter / -monitor* (EN14597, 2009-1)** TB45-**2**xx-xxxxx
▪ **Data sheet**	English: 9499-737-48413 German: 9499-737-48433	
▪ **Operating manual**	German: 9499-040-71918 English: 9499-040-71911 *Current manual has modified!*	German: 9499-040-93518 English: 9499-040-93511 *New manual !*
▪ **Short operating instruction**	Multi-lingual 9499-040-71641	Multi-lingual 9499-040-93641
▪ **Additional operating note BH** Printed on yellow paper!	German / English: 9499-047-15741 *Includes the issues described above* *Refers to the versions applicable universally as TB/TW!*	