

MSC Freiburg GmbH Design Center Augsburg	Project: TEC1 – Minimal Small / Minimal Big Subject: Differences between Systems	Rev.: 2 Date: 30.01.2013 Author: T. Relovsky
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This document describes the TEC1 Minimal systems. These systems are used as display units which are integrated into customer devices, mainly fitness systems such as training bikes.

All Minimal systems offer the same functionalities, the difference between Minimal Small and Minimal Big is the size of the end unit. The Minimal Small is available with two different carrierboard versions: with and without hotswap. The hotswap module provides a limitation of the inrush current, the functionality of the running systems is identical.

Minimal Small (with and without hotswap)



Minimal Big



The majority of the components is identical for all Minimal systems.

Due to the dimensions of the Minimal Small and the Minimal Big the mechanic parts (plastic frame, metal frame and front glass) and the customer software are different.

The only difference between the Minimal Small with hotswap and the Minimal Small without hotswap is the mounting of the carrierboard. The layout of the carrierboard is identical for all versions.

Component	Identical for all Minimal systems	54792 Minimal Small with and without Hotswap Part#	54791 Minimal Big Part#
7" Display	✓ Yes		
7-segment Display incl. cables	✓ Yes		
Processor / Nanorisk Board	✓ Yes		
WLAN module with mounted antenna	✓ Yes		
Status LED incl. cable	✓ Yes		
Plastic Frame	No	54693	54677
Metal Frame	No	54694	54682
Front Glass	No	54695	54683
Customer Software*	No	55002	55001
Carrierboard	Layout: ✓ Yes Mounting: No	39294 Details see below	39290 Details see below

\* Generic software, including all software for radio part, is identical for all systems. Customer software defines the behavior of the system regarding text, pictures, menu, etc.

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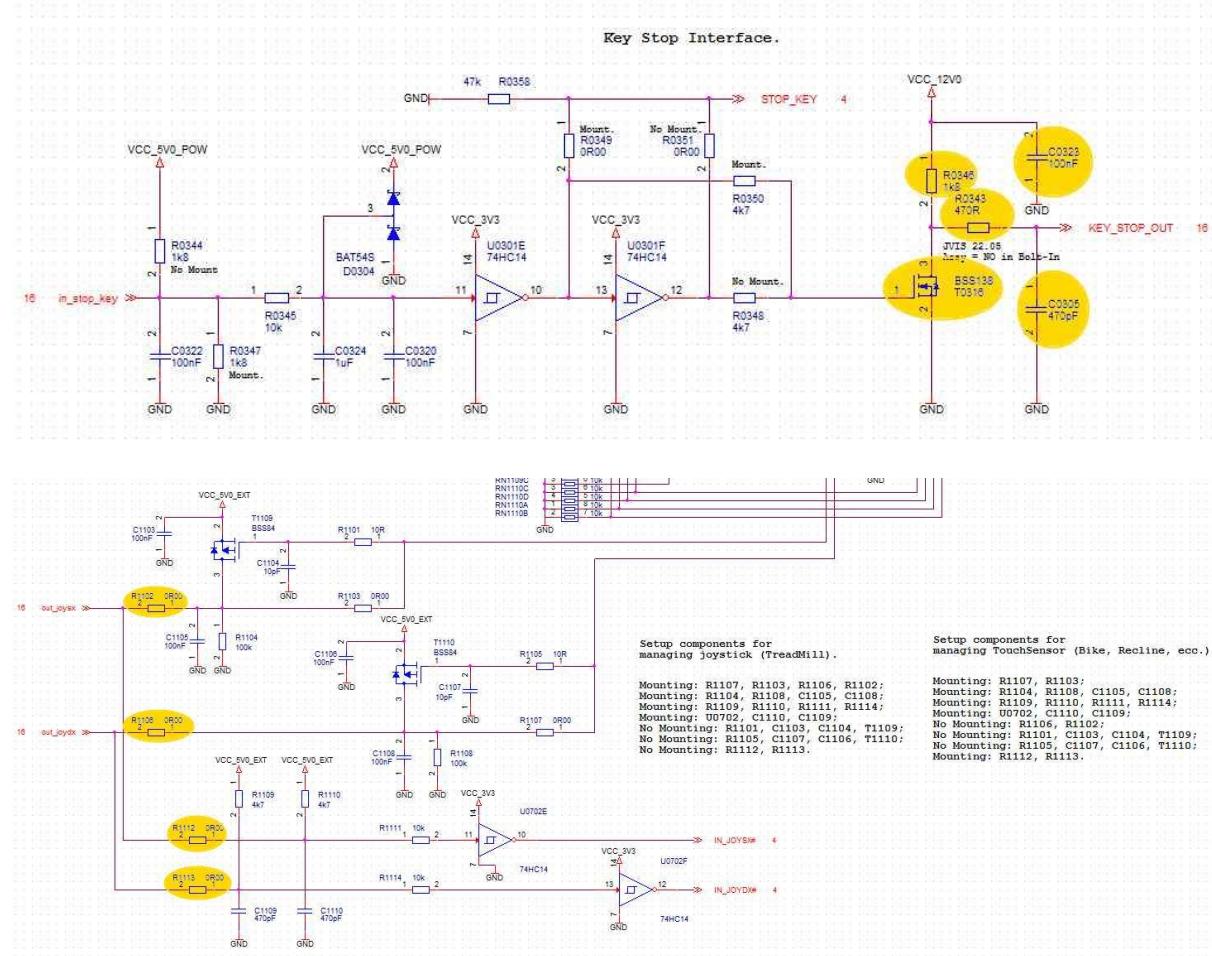
## Carrierboard

The layout of the carrierboard is identical for all versions. The differences of the mounted boards are as follows:

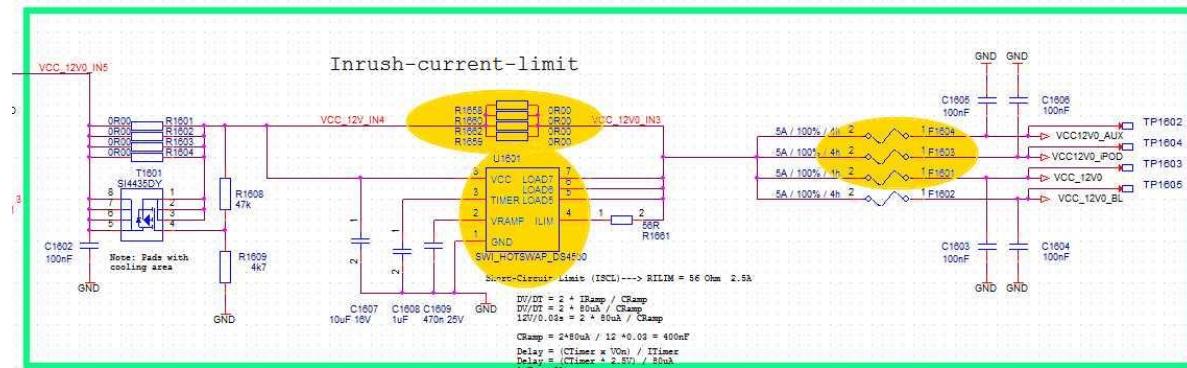
Mounting position	Minimal Small with Hotswap		Minimal Small w/o Hotswap		Minimal Big	
	Component Part#	Description	Component Part#	Description	Component Part#	Description
C0305		not mounted		not mounted	7639	CAP 470p SMT 0603 5% 50V COG
C0323		not mounted		not mounted	19078	CAP 100n SMT 0603 10% 50V X7R
F1601	2699	RES 0R00 SMT 1206	27272	FUSE 5A FF SMT 1206 32V	27272	FUSE 5A FF SMT 1206 32V
F1603	2699	RES 0R00 SMT 1206	27272	FUSE 5A FF SMT 1206 32V	27272	FUSE 5A FF SMT 1206 32V
F1604	2699	RES 0R00 SMT 1206	27272	FUSE 5A FF SMT 1206 32V	27272	FUSE 5A FF SMT 1206 32V
R0343		not mounted		not mounted	2036	RES 470R SMT 1206 1% 0.25W TC100
R0346		not mounted		not mounted	7684	RES 1k80 SMT 0603 1% 0.063W TC100
R1102		not mounted		not mounted	5545	RES 0R00 SMT 0603
R1106		not mounted		not mounted	5545	RES 0R00 SMT 0603
R1112	5545	RES 0R00 SMT 0603	5545	RES 0R00 SMT 0603		not mounted
R1113	5545	RES 0R00 SMT 0603	5545	RES 0R00 SMT 0603		not mounted
R1658		not mounted	2699	RES 0R00 SMT 1206	2699	RES 0R00 SMT 1206
R1659		not mounted	2699	RES 0R00 SMT 1206	2699	RES 0R00 SMT 1206
R1660		not mounted	2699	RES 0R00 SMT 1206	2699	RES 0R00 SMT 1206
R1662		not mounted	2699	RES 0R00 SMT 1206	2699	RES 0R00 SMT 1206
T0316		not mounted		not mounted	1830	TRA MOSFET N SMT SOT23 50V 0.22A 3.5R
U1601	42503	IC DS4560 SMT SO8_150 9-13.2V		not mounted		not mounted

RES = Resistor, CAP = Capacitor, TRA = Transistor

Details for mounting position differences Minimal Small / Minimal Big:

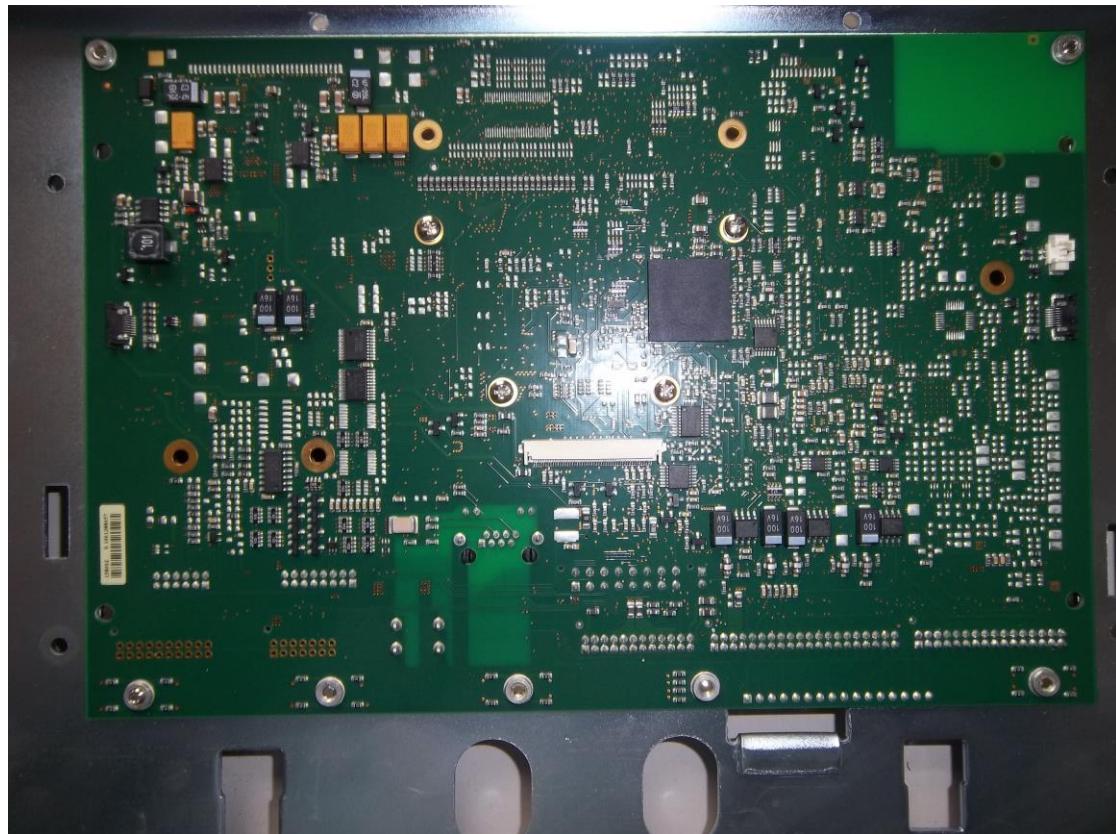


Differences for versions with and without hotswap:

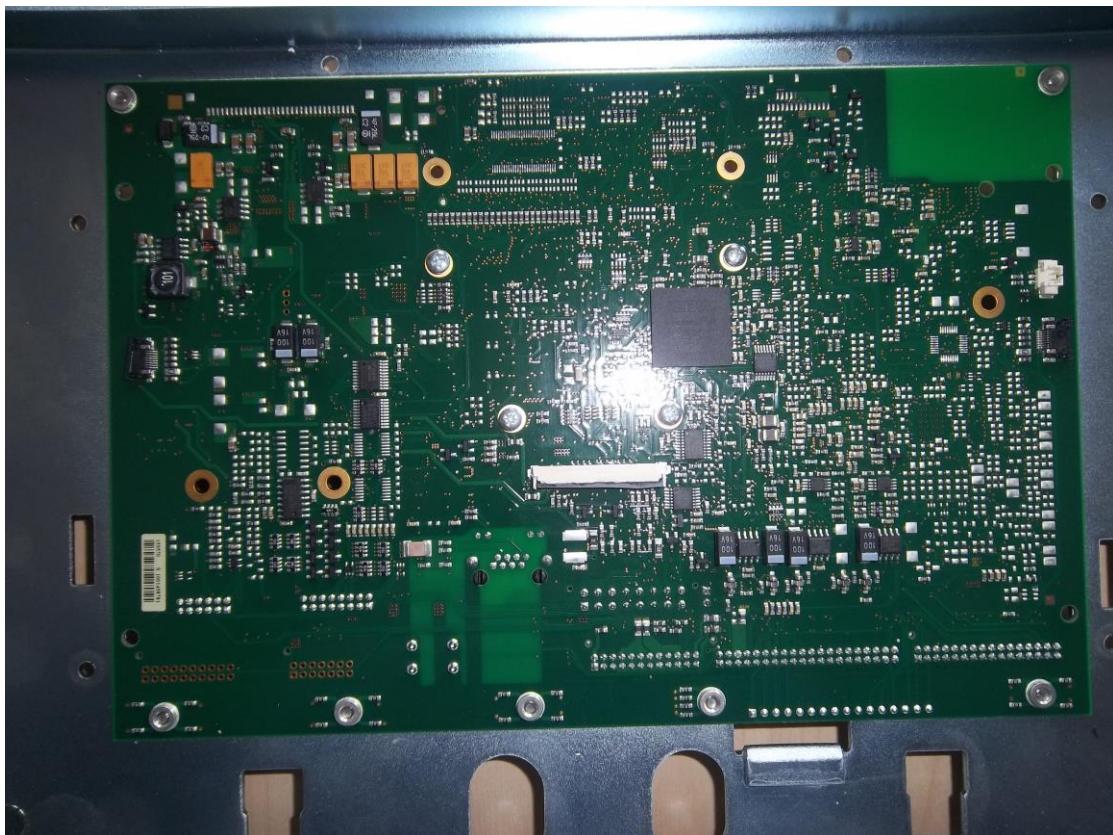
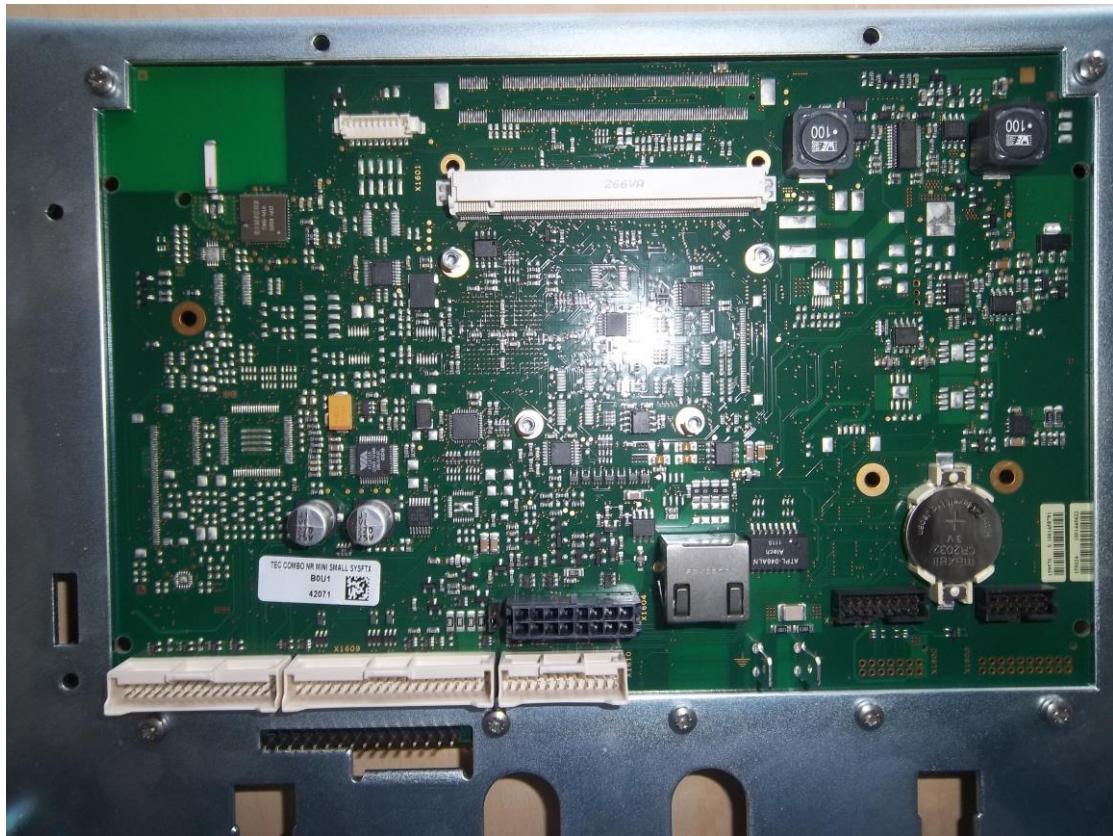


Carrier board pictures

Minimal Small with hotswap



Minimal Small without hotswap



Minimal Big

