

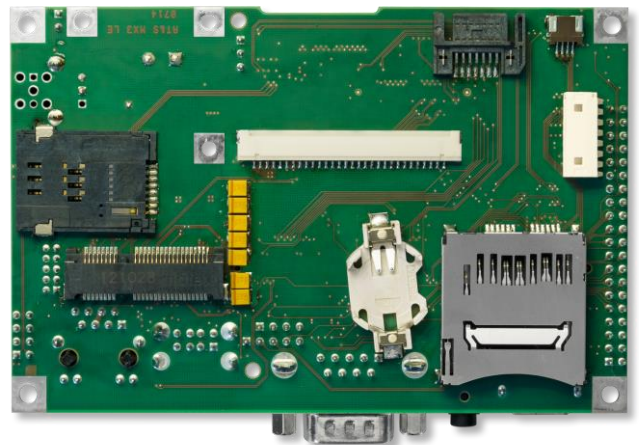
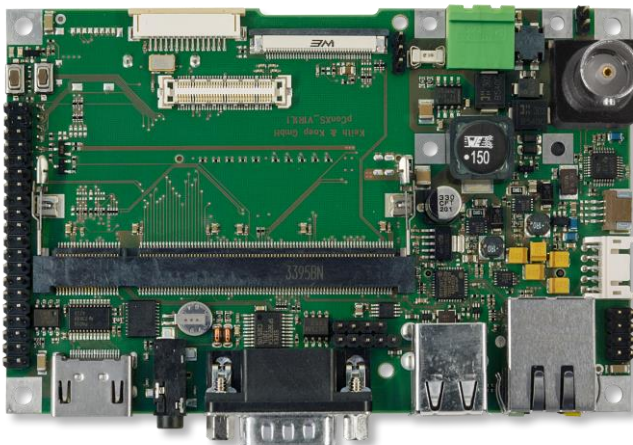
# pConXS V1R2

Documentation version 3.0

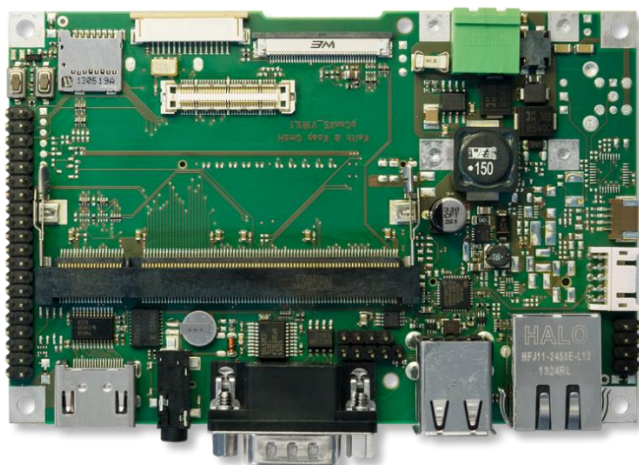
## Introduction

The pConXS is a 5.0 inch baseboard for SECO SODIMM200 CPU-Module Trizeps-VII. The baseboard is designed as full scalable embedded solution for quick and simple integration in customized equipments. It supports all functionalities of the Trizeps VII. In addition to numerous standard interfaces, an analog camera interface and a Mini PCI Express card edge connector are available. The baseboard supports a lot of LCD displays thanks to the HDMI, Dual LVDS and touchscreen LCD interfaces. Additional software board support packages complete the eased design in process to a fix time to market solution for every customer's product. For special needs it is simple to connect additional hardware through the extension connector. It is available as a low cost and a full function version.

## FF-Version (Full Function)

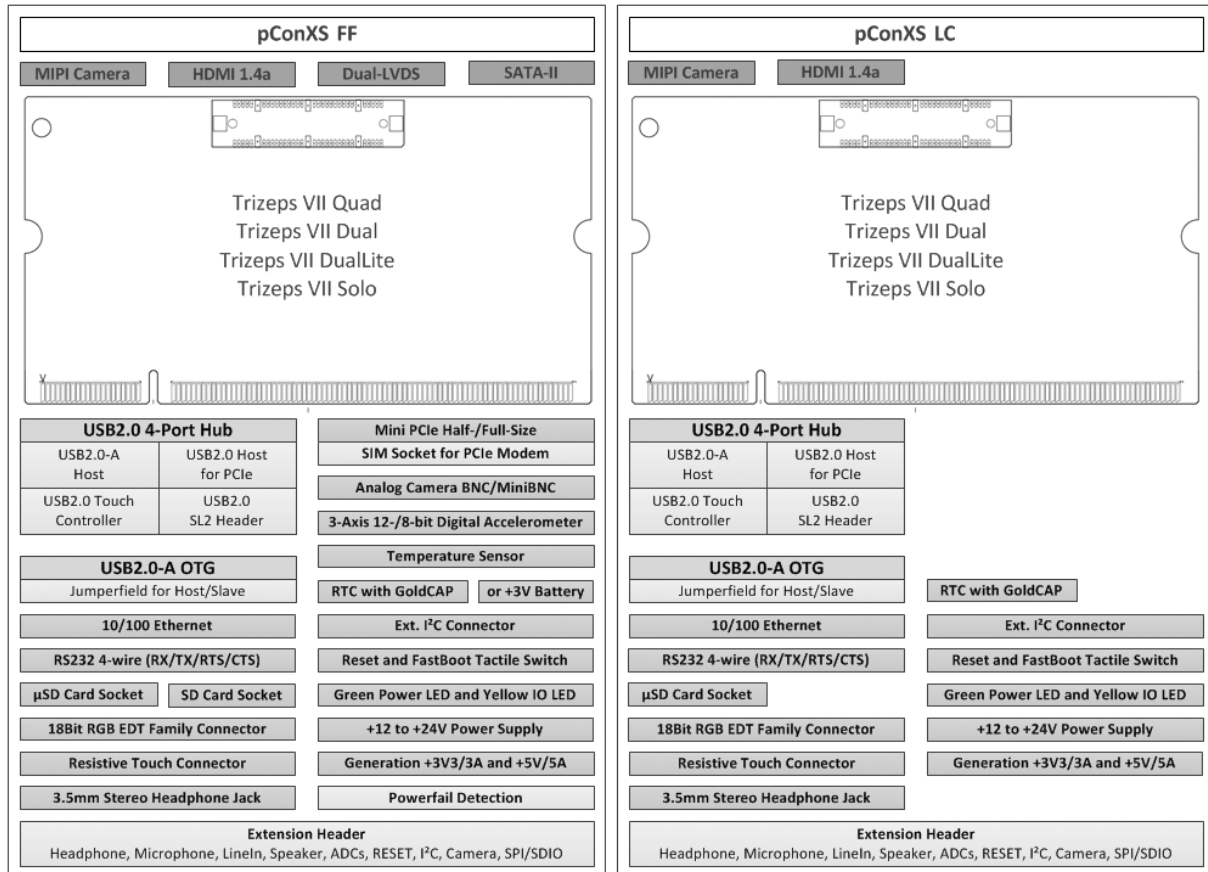


## LC-Version (Low Cost)



## pConXS FF and LC versions

Differences between the pConXS FF (Full Function) and pConXS LC (Low Cost)



Please note: Support and functionality of the Mini PCIe interface on request.



## Features and Interfaces

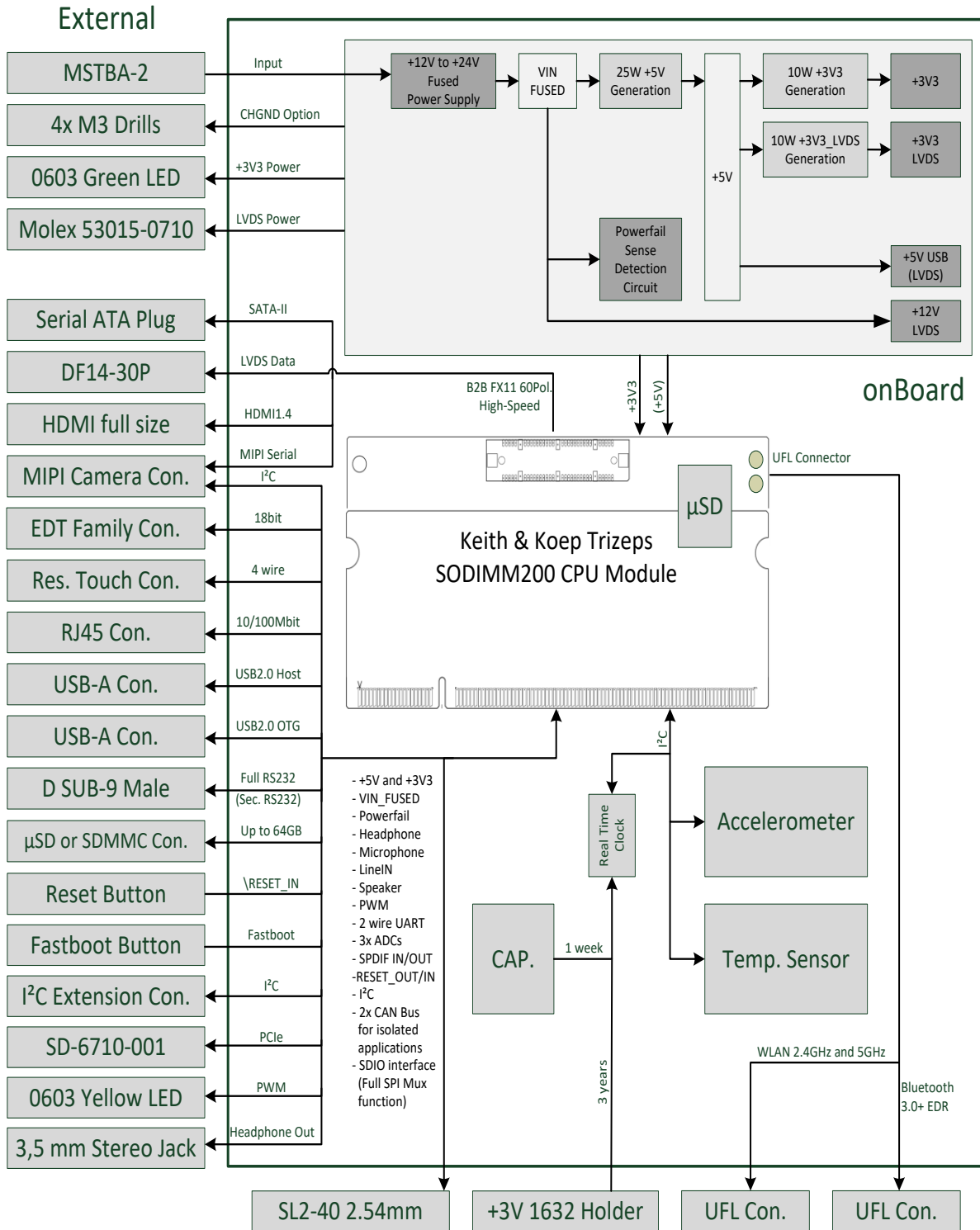
### Features

- Fits to Trizeps-VII Solo, Trizeps-VII DualLite, Trizeps-VII Dual and-Trizeps VII Quad
- Support of the new SECO Trizeps VII high-speed board to board connector
- Support of WLAN and Bluetooth functionality with Trizeps-VII
- EDT Family connector for 3.5", 4.3", 5.0", 5.7" and 7.0" displays, also with resistive or capacitive integrated touch panel
- Support for Displays starting with 7.0" through LVDS and Dual-LVDS up to WUXGA resolution
- HDMI1.4 display connector for WUXGA resolutions
- Industrial 25W power supply from +12V up to +24V
- 10/100 Mbit Ethernet RJ45 Connector
- RS232 with Handshake (RTS, CTS) on male D-SUB 9 connector
- USB2.0-A Host and USB2.0-A OTG connector with switch through jumper pin header
- Additional µSD Card Socket for low priced memory expansion
- Optional LVDS display© connector on bottom side
- Optional Mini PCIe Half-/Full Size Card Edge Connector on bottom side
- Optional SIM Card Connector on bottom side
- Optional SATA connector on bottom side
- Optional SD/MMC Card Connector on bottom side
- Reset and Fast Boot Button, Power and Status LEDs
- 40pol. SL2-40 2.54mm extension pin header
- Real Time Clock buffered through cap or optional +3V battery
- I<sup>2</sup>C Temperature IC
- I<sup>2</sup>C 12-bit/8-bit 3-Axis Digital Accelerometer
- Optional BNC or Mini-BNC for analog camera input
- Stereo headphone out

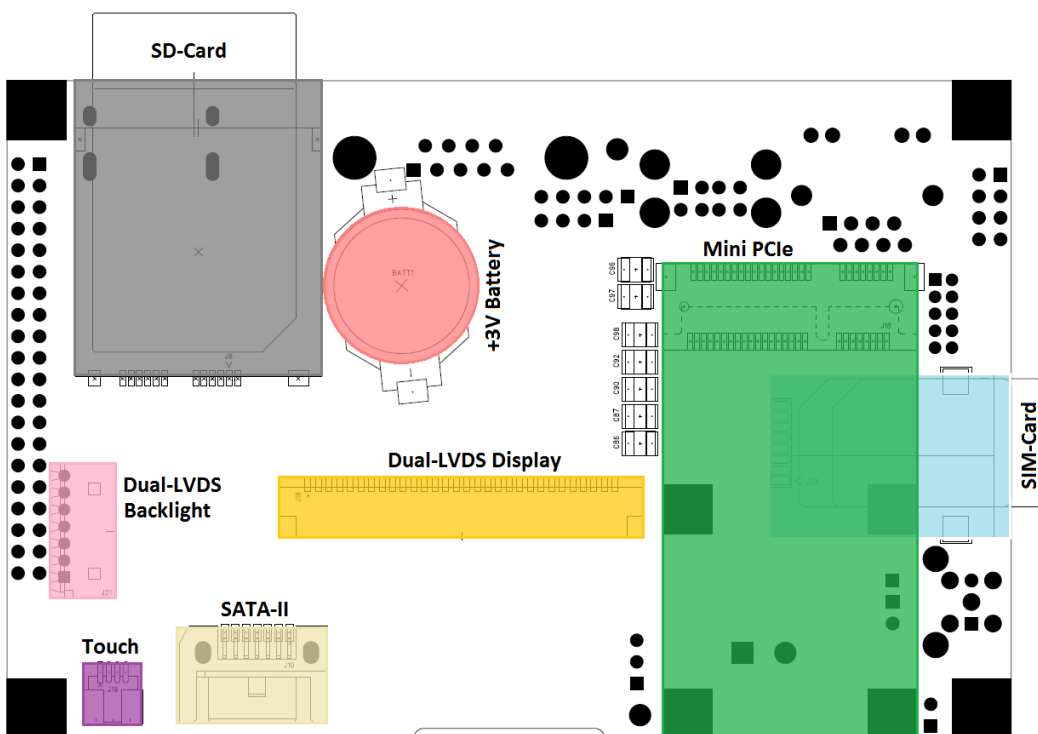
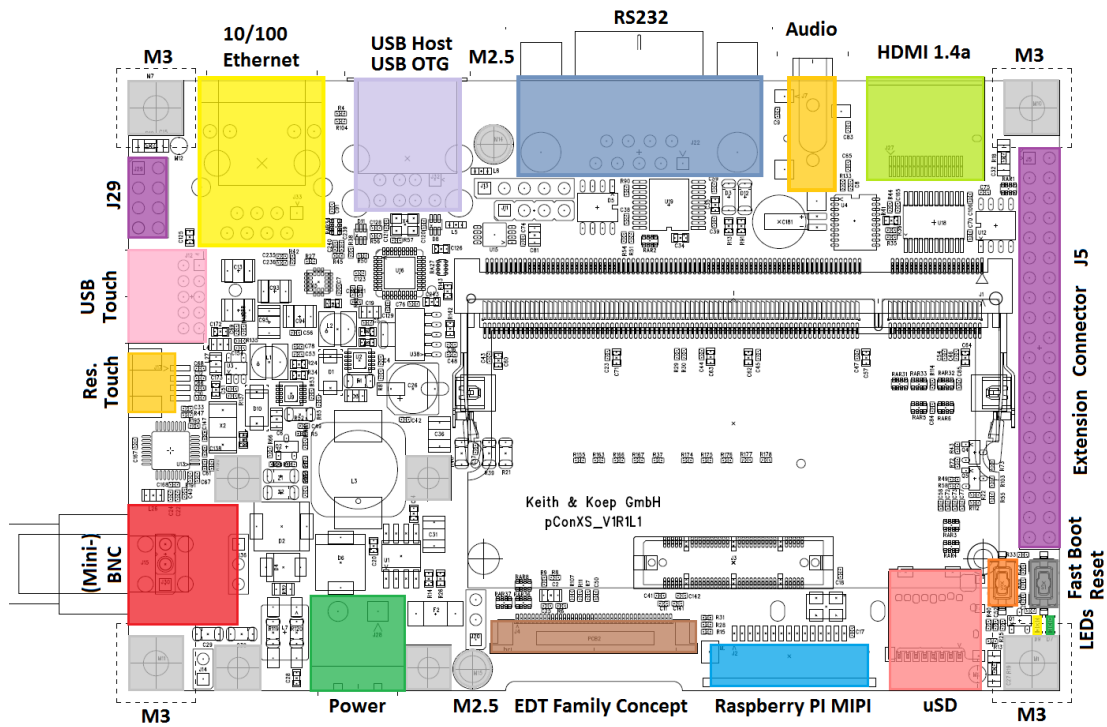
### Interfaces / Signals accessible over extension connectors

- +5V Power Supply
- +3V3 Power Supply
- VIN\_FUSED Supply and Power failure GPIO for USV
- Stereo Headphone
- Microphone
- LINEIN
- Speaker Output
- 2 wire UART
- 3x ADCs
- SPDIF IN/OUT
- \RESET\_OUT and \RESET\_IN
- I<sup>2</sup>C
- 2x CAN Bus for isolated applications
- SDIO interface (Full SPI Mux function)

# 1 SIMPLIFIED BLOCK DIAGRAM



## 2 CONNECTORS





### J1: SODIMM200 Connector

For pin information see the latest Trizeps VII documentation on <https://north.seco.com/>

### J2: Raspberry PI Camera Connector

Pin	Signal
1	GND
2	CSI_D0N
3	CSI_D0P
4	GND
5	CSI_D1N
6	CSI_D1P
7	GND
8	CSI_CLK0N
9	CSI_CLK0P
10	GND
11	SP123 (GPIO)
12	OSC_OUT (24MHz)
13	I2C1_SCL
14	I2C1_SDA
15	Power Supply (+3V3)

### J5: SL2-40 2.54mm extension pin header

Signal	Pin		Pin	Signal
GND	1		2	GND
+5V	3		4	+5V
VIN_FUSED	5		6	VIN_FUSED
+3V3	7		8	+3V3
LED_GPIO	9		10	HEADPHONE_R
HEADPHONE_L	11		12	HEADPHONE_GND
LINEIN_L	13		14	LINEIN_R
MIC_OUT	15		16	MIC_GND
UART3_TXD	17		18	UART3_RXD
GP_POWERFAIL	19		20	AD3
AD0	21		22	AD1
SPEAKER_L	23		24	SPEAKER_R
SPDIF_IN	25		26	SPDIF_OUT
\RESET_OUT	27		28	\RESET_IN
I2C2_SCL	29		30	I2C2_SDA
CAN1_TX	31		32	CAN1_RX
CAN2_TX	33		34	CAN2_RX



SDIO3_DATA0__SPI2_MISO	35		36	SDIO3_DATA1__SPI2_SSO
SDIO3_DATA2__SPI2_SS1	37		38	SDIO3_DATA3__SPI2_SS2
SDIO3_CLK__SPI2_SCLK	39		40	SDIO3_CMD__SPI2_MOSI

### J12: USB Touch Connector (JST S10B-PHDSS-B)

Signal	Pin		Pin	Signal
USB3_DN	1		2	-
USB3_DP	3		4	-
GND	5		6	-
+5V	7		8	-
GND	9		10	-

### J16: LVDS Data Signals (Hirose DF14-30P-1.25H)

Pin	Signal		Pin	Signal
1	GND		16	LVDS0_CLK_N
2	LVDS1_TX3_P		17	LVDS0_TX2_P
3	LVDS1_TX3_N		18	LVDS0_TX2_N
4	LVDS1_CLK_P		19	LVDS0_TX1_P
5	LVDS1_CLK_N		20	LVDS0_TX1_N
6	LVDS1_TX2_P		21	LVDS0_TX0_P
7	LVDS1_TX2_N		22	LVDS0_TX0_N
8	LVDS1_TX1_P		23	GND
9	LVDS1_TX1_N		24	GND
10	LVDS1_TX0_P		25	GND
11	LVDS1_TX0_N		26	NC
12	GND		27	+5V (+3V3 opt.)
13	LVDS0_TX3_P		28	+5V (+3V3 opt.)
14	LVDS0_TX3_N		29	+5V (+3V3 opt.)
15	LVDS0_CLK_P		30	+5V (+3V3 opt.)

### J17 + J19: Resistive Touch Connector (JST 04FMS-1.0SP-TF)

Pin	Signal
1	LVDS_TSPX
2	LVDS_TSPY
3	LVDS_TSMX
4	LVDS_TSMY



### J18: Mini PCIe Half-/Full Size Card Edge Connector (Molex SD-6710-001)

Signal	Pin		Pin	Signal
nPCIE_WAKE	1		2	+3V3_AUX
-	3		4	GND
-	5		6	+1V5
nPCIE_CLKREQ	7		8	UIM_PWR
GND	9		10	UIM_DATA
PCIE_CLKN	11		12	UIM_CLK
PCIE_CLKP	13		14	UIM_RESET
GND	15		16	UIM_VPP
UIM_IC_DM	17		18	GND
UIM_IC_DP	19		20	nW_DISABLE1 (pu 100K)
GND	21		22	nPCIE_RESET
PCIE_RXN	23		24	+3V3_AUX
PCIE_RXP	25		26	GND
GND	27		28	+1V5
GND	29		30	I2C1_SCL
PCIE_TXN	31		32	I2C1_SDA
PCIE_TXP	33		34	GND
GND	35		36	USB4_DN
GND	37		38	USB4_DP
+3V3_AUX	39		40	GND
+3V3_AUX	41		42	-
GND	43		44	-
-	45		46	-
-	47		48	+1V5
-	49		50	GND
nW_DISABLE2 (pu 100K)	51		52	+3V3_AUX

### J19: LVDS Backlight Connector (Molex 53015-0710)

Pin	Signal
1	GND
2	GND
3	GND
4	BL_PWM (0V to +3V3)
5	BL_EN (+5V active high)
6	VIN (+5V or +12V) (see J20)
7	VIN (+5V or +12V) (see J20)





### J20: LVDS Backlight Power Supply

Jumper	Mode
1-2	VIN-Fused (use only, if Power Supply is +12V !!)
2-3	+5V

### J22: D SUB-9 Male (RS232)

Pin	Signal
1	-
2	FF_RXD_V24X
3	FF_TXD_V24X
4	-
5	GND
6	-
7	FF_RTS_V24X
8	FF_CTS_V24X
9	-

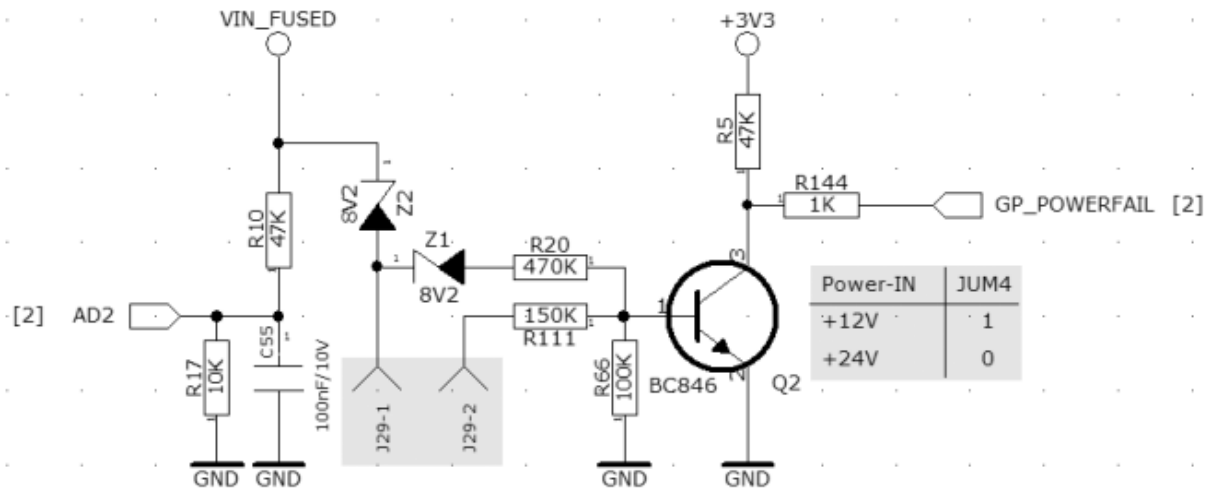
### J28: Power Supply

Pin	Signal
1	VIN (12V to 24V)
2	Ground

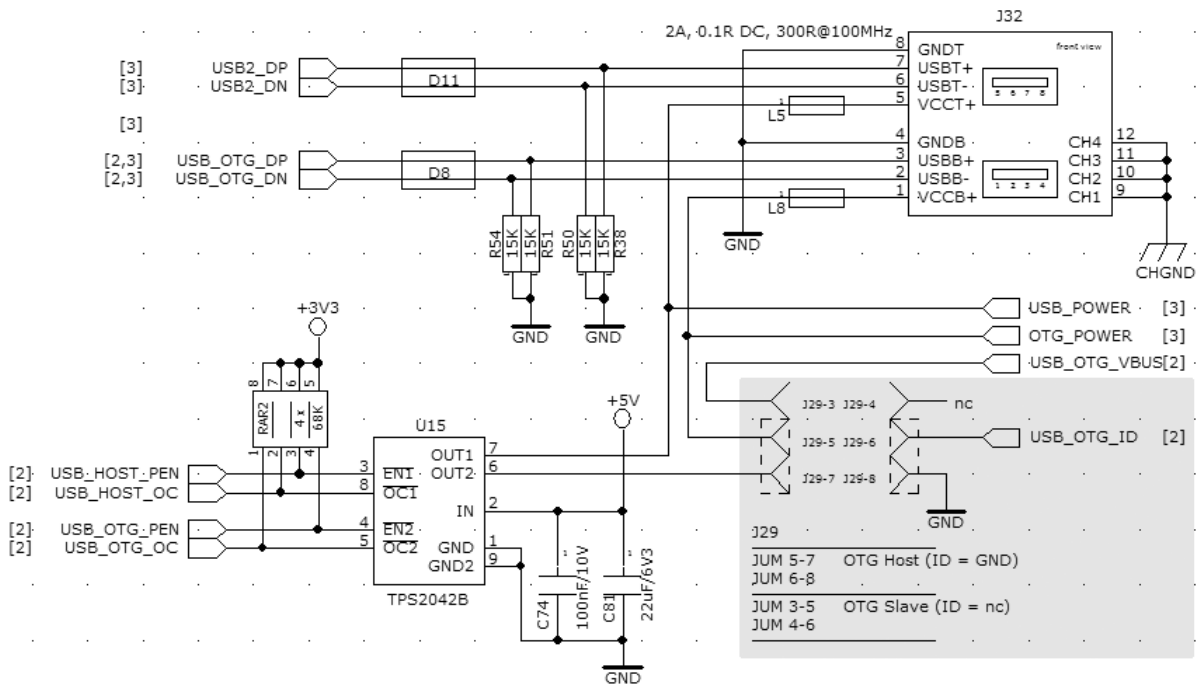
### J29: USB OTG Mode

Jumper	Mode
5-7 && 6-8	USB-Host
3-5 && 4-6	USB-Slave
1-2 Set	Power Fail @9V
1-2 Open	Power Fail @ 17V

## Powerfail



## USB OTG or Slave

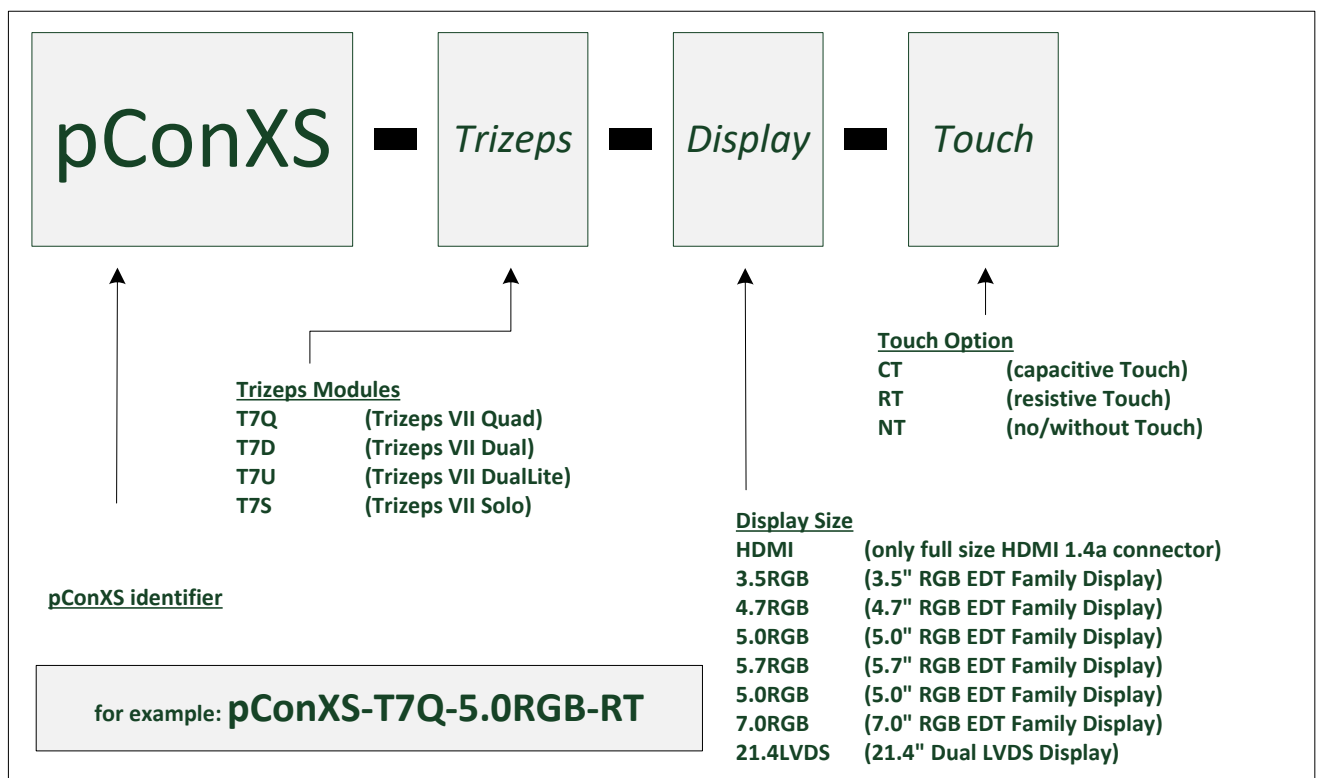


### 3 EDT DISPLAY SUPPORT

For various display support, the pConXS PCB has the EDT Family Connector. With several assembly options it is possible to connect every EDT Family Display to the pConXS. Following figures are showing the different assembly options to have a wide range of supported resistive or capacitive displays.

The pConXS is usually shipped with the 7.0" inch capacitive assembly variant.

### 4 ORDERCODES FOR PCONXS





## 5 IMPORTANT NOTICE

## 6 DOCUMENT HISTORY

■

Rev.	Date	Author	Changes
2.0	23.06.2015	PD	Initial version
2.1	28.05.2019	VoB	Added Power Supply Connector J28
3.0	21.11.2022	MP	Update new CI

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SECO Northern Europe GmbH

Schlachthofstraße 20  
21079 Hamburg

E-Mail: [north@seco.com](mailto:north@seco.com)

<https://north.seco.com>

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