

PLCcore-F407

low-cost industrial control platform

The PLCcore-F407 is built for applications where minimal costs are essential. The architecture of this insert-ready OEM-able single board computer is designed in a way to provide a broad I/O configuration at reduced costs. The PLCcore-F407 is equipped with an IEC 61131-3 runtime kernel and seamlessly integrated CANopen and Ethernet. It is the ideal platform for developments of PLC systems and small machine controls.

Cortex™ M4-based System on Module

Optimized for low -cost applications

CANopen Master/Slave connectivity

IEC 61131-3 programmable

Ethernet connectivity

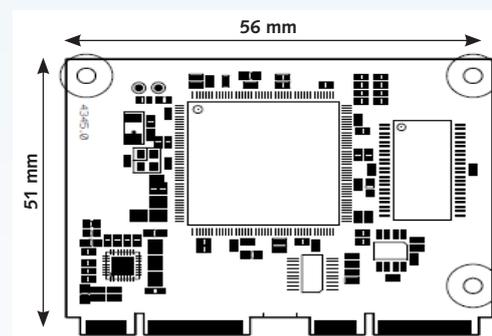


CANopen®

Specifications

Controller	STM32F407
Core	ARM 32-bit Cortex™-M4
Frequency (internal)	168MHz
Application memory	512kB for PLC user application
Interfaces	
Ethernet	1x 10/100Mbps, on-board PHY
CAN	2
UART	3
PWM	2
Analog Output	2
Analog Input	2+6
Digital Output	8+10
Digital Input	8+8
Fast Counter	2
Board-to-board connector:	2x52 pin card edge (Mini PCIe connector footprint)
Operating System	SmartPLC by infoteam
Programming Interface	RS 232, CAN, Ethernet
Programmable in	IEC 61131-3
Power Supply	3.3V +/-5%
Operating Temperature	-40°C ... +85°C
Optional	
LCD	DOT-matrix LCD (128x64, via SPI)
Mass storage	Micro-SD
RTC	low-current RTC with battery backup
Environmental standard	
RoHS	yes

The PLCcore-F407 provides broad I/O functionalities through simple connector footprint. Its used processor is a Cortex™ M4 - developed for efficient control and signal processing capabilities. A pre-integrated IEC 61131-3 runtime system allows access to CAN, Ethernet and UART. There are also integrated interfaces available for digital and analog inputs and outputs as well as PWM output and counter inputs.



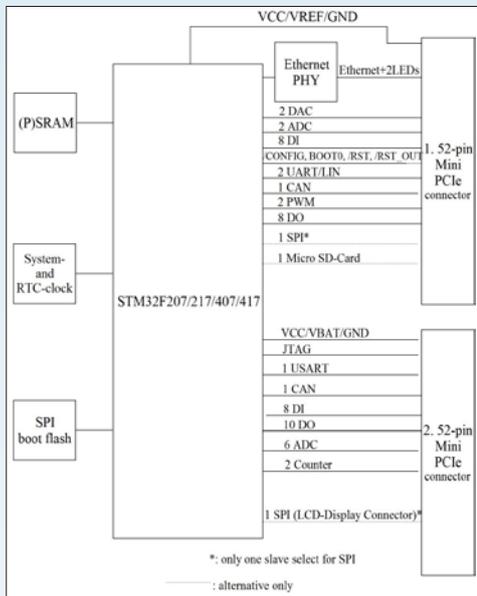
2x52 pin card edge connector (Mini PCIe connector footprint)

About SYS TEC electronic

SYS TEC electronic GmbH is a system house for distributed automation technology. We provide a comprehensive service from consulting to OEM integration.

Founded in 1990 in Germany SYS TEC electronic has more than 20 years experience in customized development of microcontroller systems and industrial communication.

Core Module



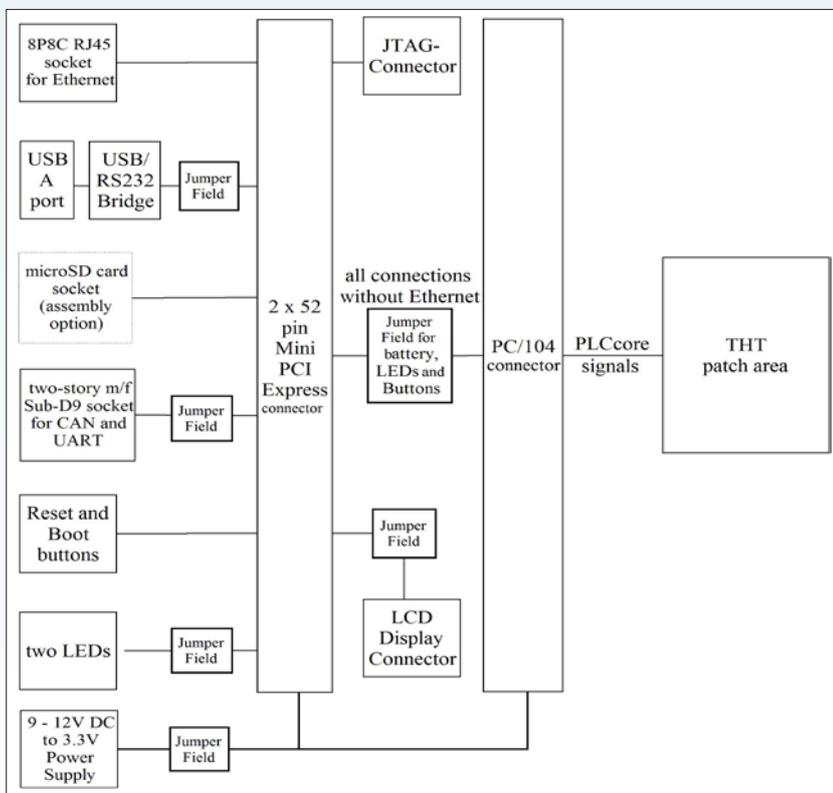
Board connector 1

PLC I/O function	Signalname	Pin	Pin	Signalname	PLC I/O function
-	3V3	1	2	PC10-USART3_TX	SIO0
-	GND	3	4	PC11-USART3_RX	SIO0
-	ETH_TXP	5	6	PE2-RUNLED	-
-	ETH_TXM	7	8	PE3-ERRLED	-
-	GND	9	10	ETH_LED0 (Link active)	-
-	ETH_RXM	11	12	ETH_LED1 (Speed)	-
-	ETH_RXM	13	14	VREF	-
-	GND	15	16	GND	-
DAC0	PA4-DAC_OUT1	17	18	PA9-USART1_TX	SIO1
DAC1	PA5-DAC_OUT2	19	20	PA10-USART1_RX	SIO1
-	GND	21	22	PC13-DE_RS485	-
ADC0	PB0-ADC1_IN8	23	24	PB13-CAN2_TX	CAN0
ADC1	PB1-ADC1_IN9	25	26	PB12-CAN2_RX	CAN0
-	GND	27	28	GND	-
DIO.0	PA0-DIO.0	29	30	PF6-TIM10_CH1	PWM0
DIO.1	PA3-DIO.1	31	32	PF7-TIM11_CH2	PWM1
DIO.2	PA8-DIO.2	33	34	GND	-
DIO.3	PA11-DIO.3	35	36	PC8-DO0.0	DO0.0
DIO.4	PB2-DIO.4	37	38	PC9-DO0.1	DO0.1
DIO.5	PB5-DIO.5	39	40	PC10-DO0.2	DO0.2
DIO.6	PB8-DIO.6	41	42	PE4-DO0.3	DO0.3
DIO.7	PB9-DIO.7	43	44	PE5-DO0.4	DO0.4
-	GND	45	46	PE6-DO0.5	DO0.5
-	PE1-/CONFIG	47	48	PE11-DO0.6	DO0.6
-	BOOT0	49	50	PG6-DO0.7	DO0.7
-	/RST	51	52	PG7-/RST_OUT	-

Board connector 2

PLC I/O function	Signalname	Pin	Pin	Signalname	PLC I/O function
-	3V3	1	2	PG10-DO1.0	DO1.0
-	GND	3	4	PG11-DO1.1	DO1.1
-	PA13-JTMS-SWDIO	5	6	PG12-DO1.2	DO1.2
-	PA14-JTCK-SWCLK	7	8	PH1-DO1.3	DO1.3
-	PA15-JTDI	9	10	PH2-DO1.4	DO1.4
-	PB3-JTDO-SWO	11	12	PH3-DO1.5	DO1.5
-	PB4-/JTRST	13	14	PH10-DO1.6	DO1.6
-	GND	15	16	PH11-DO1.7	DO1.7
-	PC12-SDIO_CK	17	18	VBAT	DO1.6
DI3.1	P110-DI3.1	19	20	GND	DO1.7
DI3.2	P111-DI3.2	21	22	PH4-I2C3_SDA	-
SIO2	PC6-USART6_TX	23	24	PH5-I2C2_SCL	-
SIO2	PC7-USART6_RX	25	26	GND	-
SIO2	PG15-USART6_CTS	27	28	PH12-DI2.0	DI2.0
SIO2	PG8-USART6_RTS	29	30	PH13-DI2.1	DI2.1
-	GND	31	32	PH14-DI2.2	DI2.2
CAN1	PA12/CAN1_TX	33	34	PH15-DI2.3	DI2.3
CAN1	P19/CAN1_RX	35	36	PI5-DI2.4	DI2.4
-	GND	37	38	PI6-DI2.5	DI2.5
ADC2	PC0-ADC3_IN10	39	40	PI7-DI2.6	DI2.6
ADC3	PC2-ADC3_IN12	41	42	PI8-DI2.7	DI2.7
ADC4	PC3-ADC3_IN13	43	44	GND	-
ADC5	PF8-ADC3_IN6	45	46	PA6-TIM3_CH1	CNT0
ADC6	PF9-ADC3_IN7	47	48	PD2-TIM3_ETR	CNT0_DIR
ADC7	PF10-ADC3_IN8	49	50	PB6-TIM4_CH1	CNT1
-	GND	51	52	PE0-TIM4_ETR	CNT1_DIR

Development Board



Production Package

The PLCcore-F407 is available as insert-ready core module. Customers that want to purchase high volumes can receive a product license with the complete production documents and the pre-programmed microcontroller. OEM can now manufacture by themselves which gives them a high degree of flexibility and additional cost optimization.

Design Packages

SYS TEC electronic offers design service packages on a fixed price basis. This includes designing and prototyping of customized application carrier boards for OEM. Customers receive design and production materials so that they can reuse the design and produce by themselves. In this manner it is possible to obtain considerably costs savings of up to 60%.



Development Kit (available from the fourth quarter 2013)

- includes:
- Baseboard
 - PLCcore-F407
 - USB cable
 - Software and documentation
 - Baseboard schematics

详细资料? 请通过sales@hkaco.com联系我们。

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