QCAT106 Datasheet

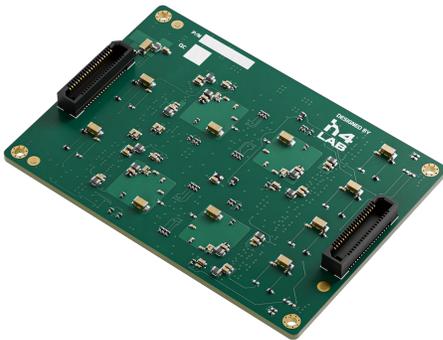*JST-GH Connector board*   *Samtec ERM8 Header board*

Description:

H4-lab's QCAT106 is an extremely compact 6-port Ether-CAT® switch that enables easy integration of EtherCAT® communication in embedded systems.

This 6-port switch was designed with the smallest footprint achievable to fit seamlessly in almost any system. Whether it is to connect our QMU201 EtherCAT® IMU or any other devices, our switch is here to make your life easier.

JST-GH and ERM8 versions:

The QCAT106 board comes in two versions: a JST-GH connector version and a board-to-board header ERM8 connector version that allows to integrate the board seamlessly in your system.

Bottom view of the ERM8 board, showing the board-to-board header connectors

Board Connector
Part # ERF8-020-05.0-L-DV-TR
Mating Connector
Part # ERM8-020-xx.x-S-DV

Features and benefits:

- JST or ERM8 connectors
- EtherCAT® communication
- Small footprint
- Plug and play

Technical specifications:

Feature	Condition	Value	Unit	Note
Mechanical Specifications				
Length		85	mm	
Width		65	mm	
Height		9.3	mm	
Weight		40	g	
Electrical Specifications				
Supply Voltage	DC	6-60	V	
Nominal Voltage*	DC	24	V	
Current Comsumption		120mA @ 24V 240mA @ 12V	mA	
Communication Interface		Full-Duplex 1000BASE-TX	Mbit/s	EtherCAT®

Highest efficiency at nominal voltage

QCAT106 Development board:

A QCAT106 development board is also available. Equipped with RJ45 connectors, it allows you to easily test and debug your EtherCAT® network.

Contents

1 Revision History:

<u>Revision A:</u>
Added nominal voltage in the Technical Specifications, page 1
Correction to the Electrical Pinout ERM8, page 5.
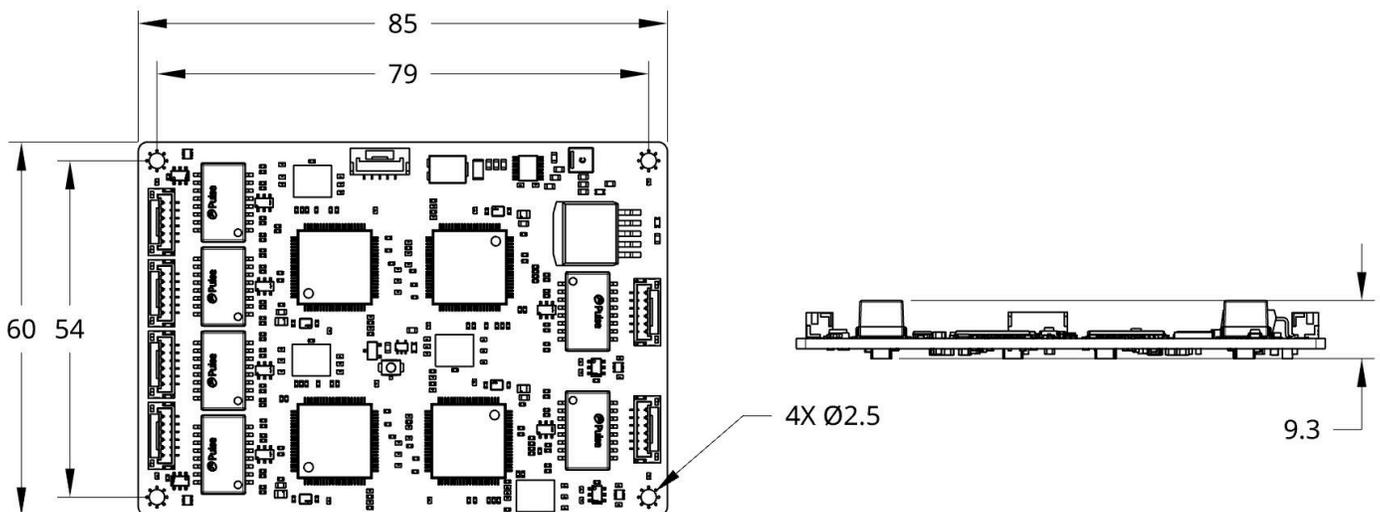
2 Naming Convention:

QCAT10X - YYYY
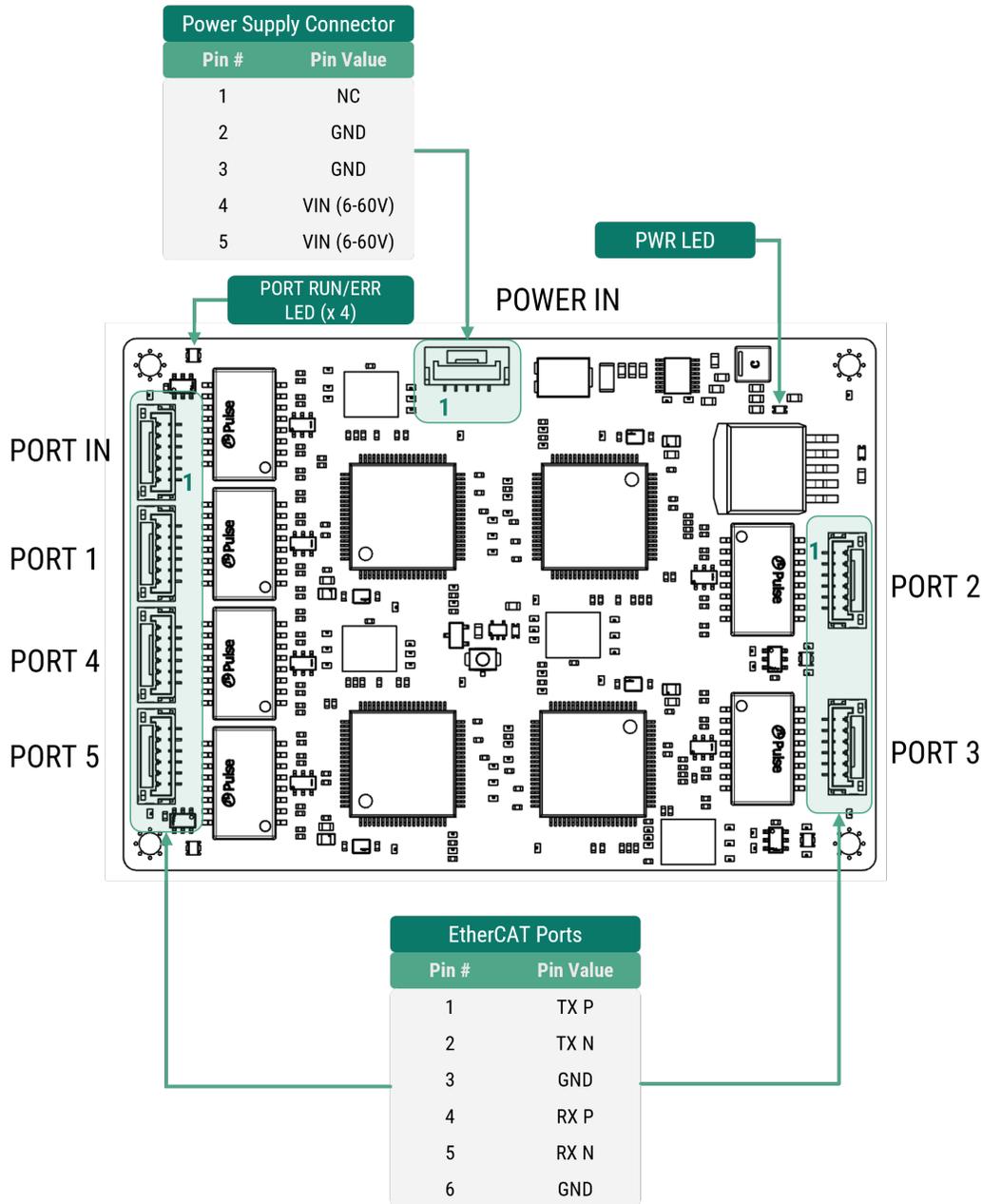
Connector type: JST or ERM8

Number of EtherCAT ports: 4 or 6

3 Mechanical drawing JST-GH version:

All dimensions displayed are in millimeters (mm)

4   Electrical pinout JST-GH:

Power Supply Connector	
Pin #	Pin Value
1	NC
2	GND
3	GND
4	VIN (6-60V)
5	VIN (6-60V)

PWR LED

PORT RUN/ERR LED (x 4)

POWER IN

PORT IN

PORT 1

PORT 4

PORT 5

PORT 2

PORT 3

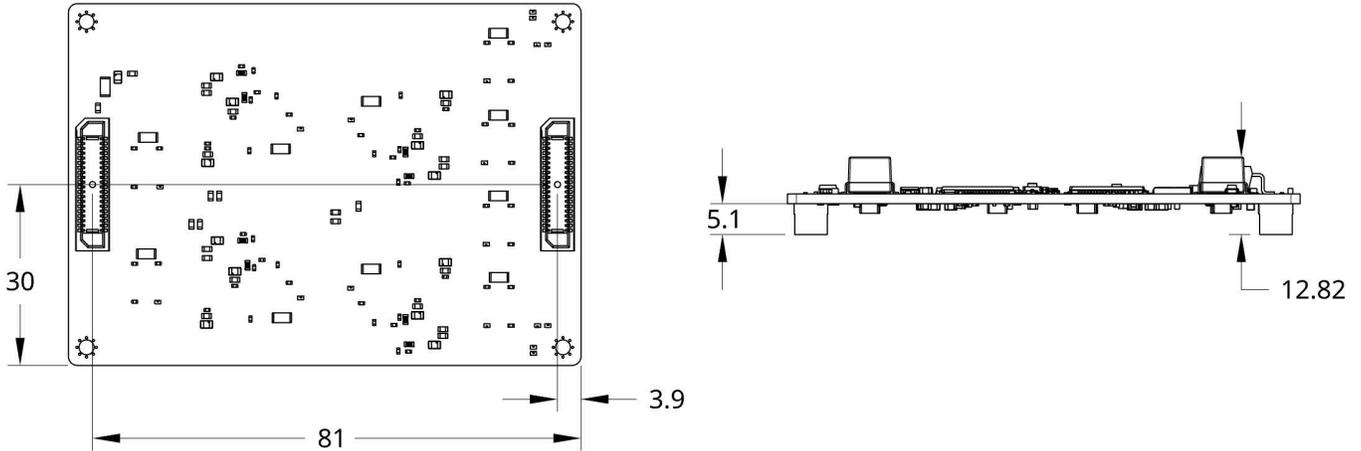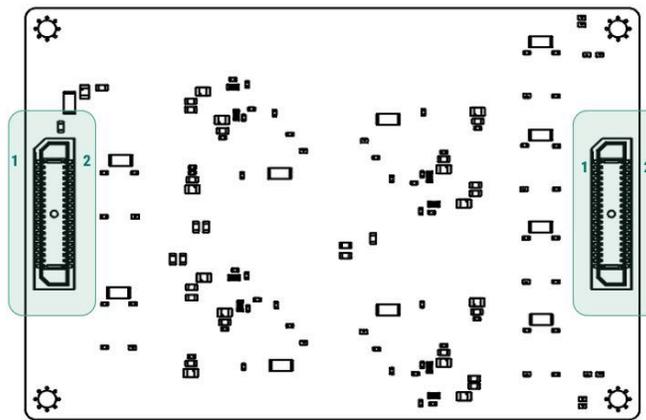| EtherCAT Ports	
Pin #	Pin Value
1	TX P
2	TX N
3	GND
4	RX P
5	RX N
6	GND

5   Mechanical drawing board to board header (ERM8) Version:

All dimensions displayed are in millimeters (mm)

6   Electrical pinout board to board header (ERM8) Version:

GND	1	2	PORT 2 TX_P
GND	3	4	PORT 2 TX_N
GND	5	6	VIN
GND	7	8	VIN
GND	9	10	VIN
GND	11	12	VIN
GND	13	14	VIN
GND	15	16	VIN
GND	17	18	VIN
GND	19	20	PORT 2 RX_P
GND	21	22	PORT 2 RX_N
GND	23	24	VIN
GND	25	26	VIN
GND	27	28	VIN
GND	29	30	VIN
GND	31	32	VIN
GND	33	34	VIN
GND	35	36	VIN
PORT 3 RX_N	37	38	PORT 3 TX_N
PORT 3 RX_P	39	40	PORT 3 TX_P

PORT 1 RX_N	1	2	PORT 0 RX_N
PORT 1 RX_P	3	4	PORT 0 RX_P
RESET	5	6	VIN
GND	7	8	VIN
GND	9	10	VIN
PORT 1 TX_N	11	12	PORT 0 TX_N
PORT 1 TX_P	13	14	PORT 0 TX_P
GND	15	16	VIN
GND	17	18	VIN
GND	19	20	VIN
GND	21	22	VIN
GND	23	24	VIN
GND	25	26	VIN
PORT 4 RX_N	27	28	PORT 5 RX_N
PORT 4 RX_P	29	30	PORT 5 RX_P
GND	31	32	VIN
GND	33	34	VIN
GND	35	36	VIN
PORT 4 TX_N	37	38	PORT 5 TX_N
PORT 4 TX_P	39	40	PORT 5 TX_P