

# TCU – A

## EMBEDDED CONTROL UNIT FOR RAILWAY APPLICATIONS



### Product Description

ASELSAN's TCU Series is a family of embedded control units integrating industry-leading computing power with standard railway network interfaces.

TCU is the optimized solution for demanding railway applications, real-time control and connectivity supporting train communication network interfaces MVB, CANopen, Ethernet according to the standard IEC 61375

### Typical Applications

- Railway Vehicles
- Locomotives

### Product Features

- Platform for Embedded Control Applications/Algorithms
- Texas Instruments DSP28346 Processor
- MVB, CANopen, Ethernet interface options
- Over voltage, over current, under voltage and short circuit protection
- 32 isolated inputs,
- 8 isolated outputs,
- 4 PWM read blocks
- Functional safety based on IEC/EN 60950-1, EN 50155
- Complies with all EMC requirements
- Fully automated self test at start-up
- Railway qualified components

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### Technical Specifications

#### Rating

|                            |                        |
|----------------------------|------------------------|
| Supply Voltage             | : 9-36 VDC             |
| Current Consumption        | : 1 A max.             |
| Digital Input High Voltage | : 18-154 VDC           |
| Digital Output Voltage     | : 24 VDC (36 VDC max.) |
| Digital Output Current     | : 2 A max.             |

#### Standards

|                      |                                                                   |
|----------------------|-------------------------------------------------------------------|
| Electrical           | : EN 50155, EN 50121-3-2                                          |
| Environmental Safety | : EN 50155, EN 50125,<br>: EN 61373 IEC/EN 60950-1,<br>: EN 50155 |

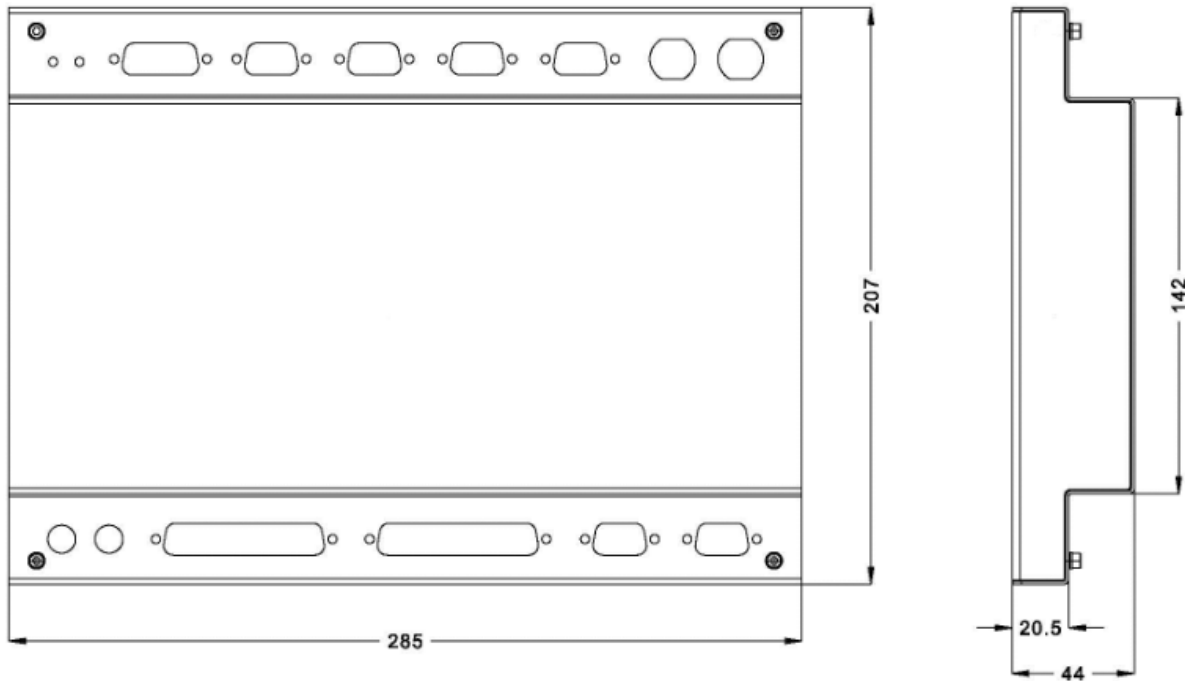
#### Interfaces

|                 |                                                                |
|-----------------|----------------------------------------------------------------|
| Digital Inputs  | : 32                                                           |
| Digital Outputs | : 8 (4 groups of 2 isolated outputs)                           |
| MVB (EMD)       | : IEC 61375-3-1 (1.5 Mbps), UL 1577,<br>: IEC 60747-5-5        |
| CAN Bus         | : CANopen IEC 61375-3-3,<br>: CAN 2.0 ISO 11898, IEC 60747-5-2 |
| RS-422/RS-485   | : ANSI/TIA/EIA-485-A-9, IEC 60747-5-2                          |
| Ethernet        | : IEEE 802.3, IEC 61375-3-4,<br>: 10/100 Mbps                  |

#### Mechanical Data

|        |         |
|--------|---------|
| Weight | : ~1 kg |
|--------|---------|

### Dimensions



Specifications are subject to change without any notice | All tolerances are within ±10%