Data Sheet
asisTacho

asis® TACHO



- Digital and analog speed display with adjustable brightness
- 2 Analog Inputs (0-10V, 4-20mA)
- Ethernet (TCP, TRDP)
- CAN (CANopen, sdxCAN)
- Actual and target speed indication
- Two indicator symbols usable standalone or combined with asisPicto via CANopen/sdxCAN
- Compact design with low installation depth, 144 x 144 x 38 mm
- Ideal for retrofit applications and seamless asis system integration
- High quality materials with glass front and aluminum housing, easy installation via latch mechanism

1. Electrical Supply characteristics

Parameter	Min.	Typ.	Max.	Unit
Operating voltage	16.8	24 - 110	143	V
Power consumption		4.5	7.5	W
Inrush current			300	mA

2. Electrical Input characteristics (Symbol1..2_C1, Symbol1..2_C2)

Parameter	Min.	Typ.	Max.	Unit
Operating voltage	16.8	24 - 110	143	V
Input current			3	mA

3. Electrical output characteristics DIG OUT

Parameter	Min.	Typ.	Max.	Unit
Operating voltage	16.8	24 - 110	143	V
Operating current			0.5[1]	A
Galvanically isolated		yes		

4. Environmental conditions

Parameter	Min.	Typ.	Max.	Unit
Rated temperature		25		°C
Operating temperature	-25		+70	°C
Storage temperature	-40		+85	°C
Storage and operating humidity	10		90[2]	%RH
Protection class front		IP65		
Protection class back		IP21		
Altitude during operation above sea level			3000	m
Reliability MTTF		40		Years

5. CAN

Parameter	Min.	Typ.	Max.	Unit
Speed (configurable)	125kb/s	250kb/s	1Mb/s	
Address (configurable)				
Protocoll (sdx, CANopen)				

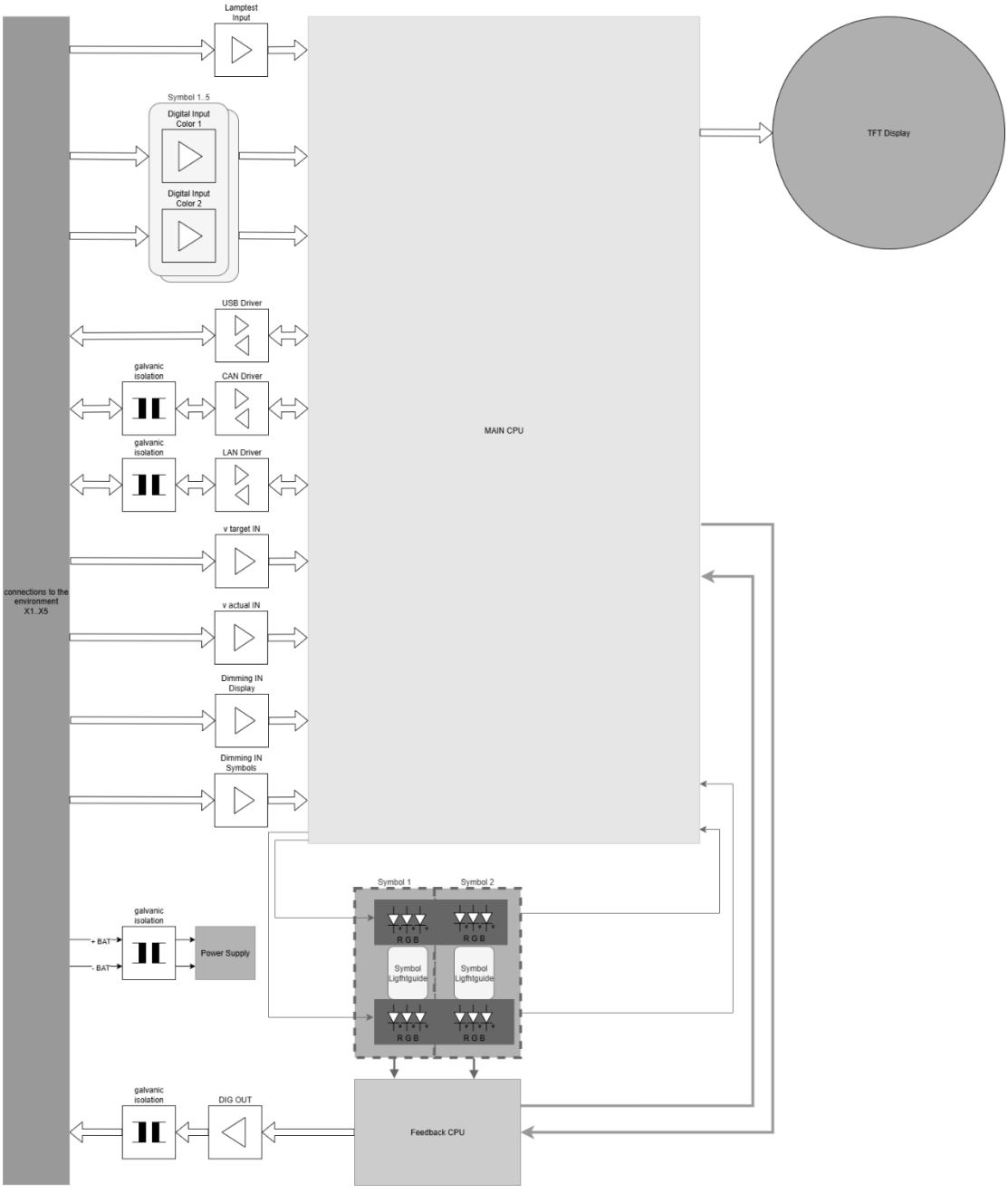
[1] short peak 0.7A
[2] Non-condensing

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6. Dimensions / Weight / Material / Color

Parameter				unit
Dimensions WxHxD	144	144	38	mm
Height above front plate			4.9	mm
Weight		0.7		kg
Housing	Black anodized aluminum, and stainless steel			
Front glass	Black printed glass			
Sealing	2 mm closed-cell epdm			
IK class front glass	IK07			
IP Rating	Front: IP65 Back: IP20			

7. Block diagram

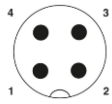
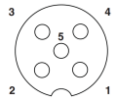
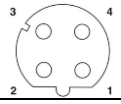
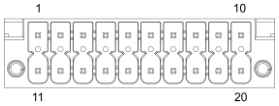


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8. Connector

8.1. Pin description



X1 Supply/Dig OUT 	**M12 male A-coded** 1 + Bat 2 - Bat 3 DIG OUT + 4 DIG OUT -	**LED** • Power (Green LED blinking 80%ON / 20OFF if system ok) • DIGOUT (Green LED, ON if DIGOUT is on)
X2 CAN 	**M12 female A-coded** 1 CAN_SHLD 2 3 4 CAN H 5 CAN L	**LED** • CAN RX (Green LED, flickers on incoming traffic) • CAN TX (Green LED, flickers on outgoing traffic)
X3 LAN 	**M12 female D-coded** 1 RX_P 2 TX P 3 RX N 4 TX N	**LED** • Link/Act • Speed
X4 IO 	**Mini Combicon Row 1** 1 Symbol 1 Color 1 2 Symbol 1 Color 2 3 Symbol 2 Color 1 4 Symbol 2 Color 2 5 Lamptest Input 6 Dimming Input Symbols 7 Dimming Input Display 8 -BAT 9 -BAT 10 -BAT	**Mini Combicon Row 2** 11 +BAT 12 +BAT 13 +BAT 14 CAN L 15 CAN H 16 +v_{target} input (0-10V, 4-20mA) 17 -v_{target} input (0-10V, 4-20mA) 18 PE 19 +v_{actual} input (0-10V, 4-20mA) 20 -v_{actual} input (0-10V, 4-20mA)
X5 CONFIG 	**USB**	This USB port is used as configuration Interface
PE	Grounding Bolt M4	Equipped with 2 hexagonal nuts, 2 washers and 1 spring washer

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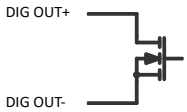
8.2. Signal description

8.2.1. +BAT, -BAT

These two terminals provide the power supply for the asisTacho. The asisTacho can operate with a supply voltage of 24 VDC to 110 VDC ± 30%.

8.2.2. DIG OUT+, DIG OUT-

DIG OUT+ is the positive and DIG OUT- the negative terminal of the MOSFET output. The output can be operated either in high-side or low-side mode. It is rated for 110 VDC / 0.5 A. The error output can be configured in the software. By default, it is NC (normally closed); when an error occurs (e.g., the symbol does not light up or lights up in the wrong color), the output is switched off. This Output is controlled by an independent microcontroller.



8.2.3. CAN

As an alternative to the discrete inputs, the asisTacho can also be controlled via sdxCAN and CANopen. This enables extended functionality. The CAN address is configured in the settings.

8.2.4. LAN

As an alternative to the discrete inputs, the asisTacho can also be controlled via TCP and TRDP. This enables extended functionality. The behaviour is configured in the settings. The LAN interface can be used via a web interface to configure the asisTacho.

8.2.5. Symbol Inputs Symbol1..2_C1/C2:

These are discrete inputs for the two colours per symbol. Each symbol can be assigned two colours in the configuration, colour 1 and colour 2 (C1, C2). The discrete inputs are used to control these colours. The inputs are designed for 24–110 VDC ± 30%.

8.2.6. Lamptest Input

When this input is activated, all symbols light up either in both colours (if two colours per symbol have been configured) or alternately, depending on the configuration settings.

8.2.7. Dimming Input symbols

This input allows the symbols to be dimmed in a range from 0–100%. A project-specific dimming curve can be defined in the configuration. The input accepts 0–10 VDC signal. GND is internally connected to -BAT.

8.2.8. Dimming Input Display

This input allows the Display to be dimmed in a range from 0–100%. A project-specific dimming curve can be defined in the configuration. The input accepts 0–10 VDC signal. GND is internally connected to -BAT.

8.2.9. v_{target} input

This is the analogue target speed input. It can be driven either with **0..10 V** or **4..20 mA**. The configuration (e.g. speed range, scaling, etc.) can be carried out in the settings using the asisTacho Configurator or in the web interface.

8.2.10. v_{actual} input

This is the analog actual speed input. It can be driven either with **0..10 V** or **4..20 mA**. The configuration (e.g. speed range, scaling, etc.) can be carried out in the settings using the asisTacho configurator or in the web interface.

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8.2.11. PE

This pin is connected to the housing, which in turn is connected to ground via the grounding stud. It can be used for shielding the CAN bus.

8.2.12. USB

The USB port serves as the configuration interface used to configure the asisTacho.

8.2.13. Grounding stud

Equipped with 2 hexagonal nuts, 2 washers and 1 spring washer

9. Symbol colors

Each symbol can be illuminated with up to two colours during operation. These colours can be defined in the asisTacho Configurator or in the web Interface.
The following colours are available:

- Red
- Green
- Blue
- Yellow
- Amber
- White
- Customer defined (defined with RGB values in the configurator)

10. Display

The 4 inch display has a resolution of 720x720 pixel and can be defined on a project-specific basis (pointer, colors, scale of the analogue display, digital display, additional information, etc.). The backlight is dimmable.

11. Configuration

The asisTacho can be configured using the asisTacho Configurator or through the web Interface. For detailed information, please refer to the configuration Manual.

12. Installation

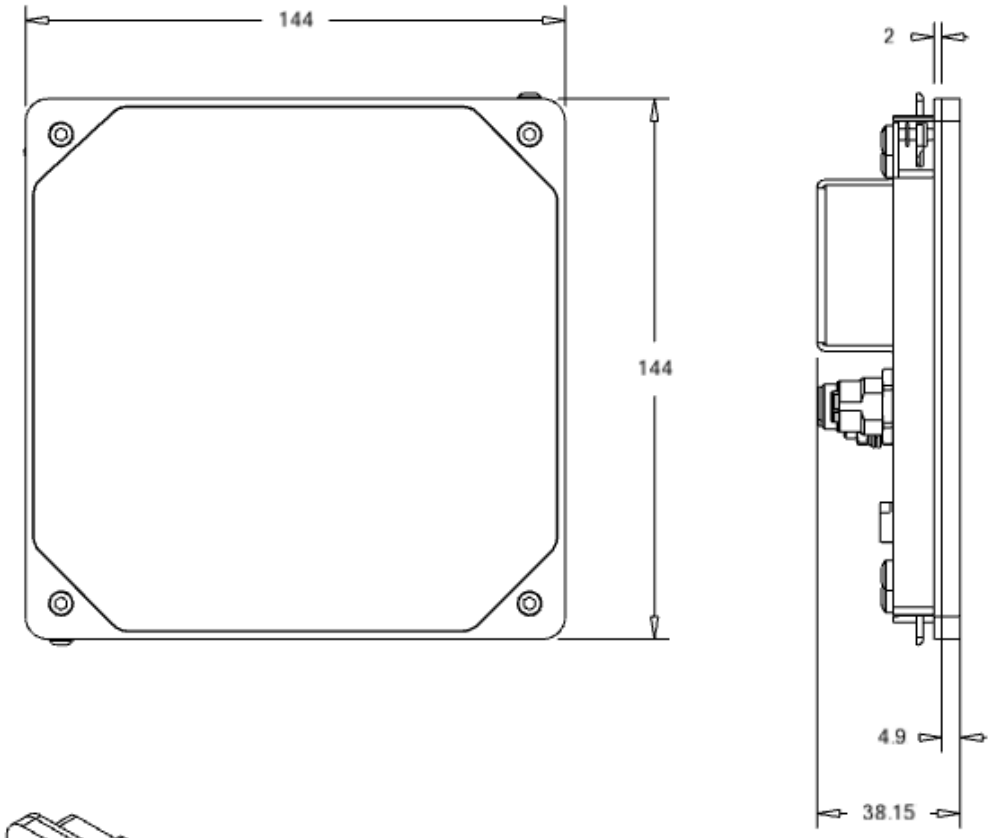
The installation of the asisTacho is very simple thanks to the latch locking mechanism. First, all cables are connected. Check that all four latches are fully retracted; the asisTacho can then be inserted into the cutout in the front panel. Next, the four latches are extended and tightened using the four screws. Removal of the asisTacho is carried out in the reverse order. The latch mechanism accepts front plate thickness up to 6mm

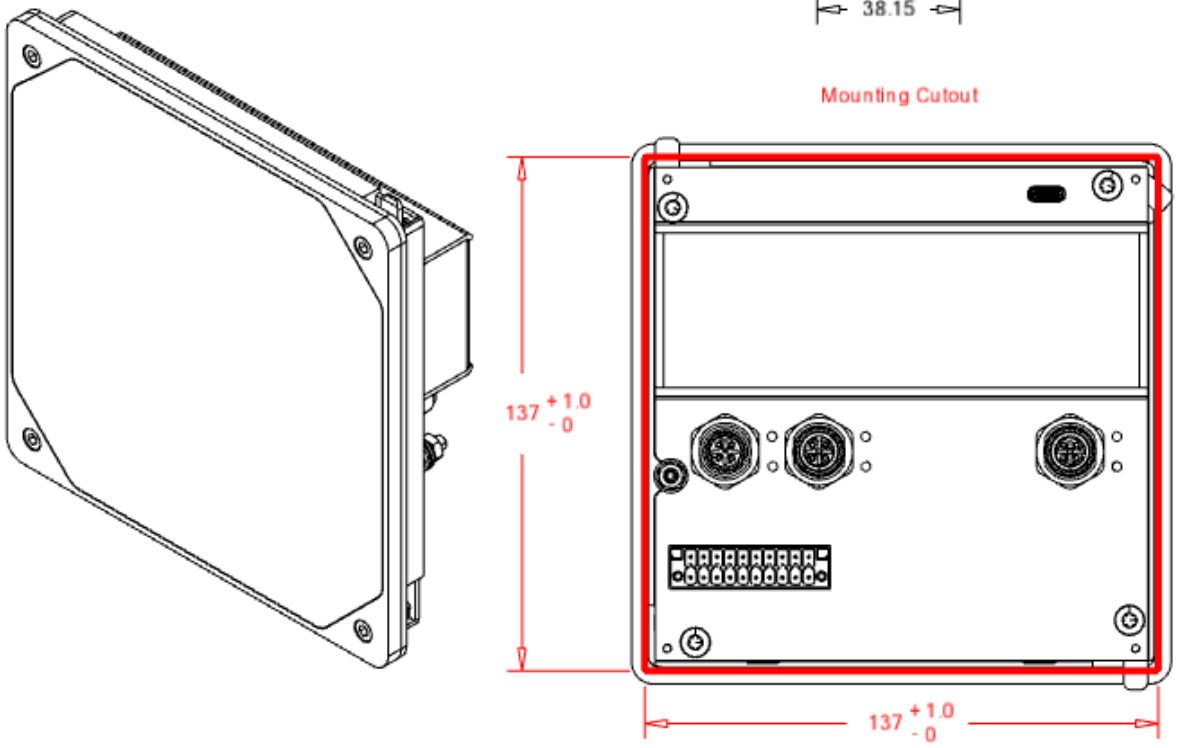
13. Insert strip

The symbols on the asisTacho are implemented using an insert strip. This design makes the asisTacho highly flexible, as different insert strips can be used for various projects while keeping the same device. The insert strips can be replaced at any time if symbol changes are required. The insert strips are project-specific and must be ordered separately. We integrate the symbols required by the customer into the insert strips. The symbols should preferably be provided to us in a vector format. The symbols can have a maximum size of 16×16mm.

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14. Drawings / Cut out dimension



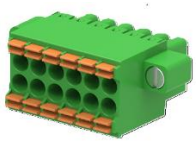


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15. Connector

For the cable connector of X4, there are two versions available: one with screw locking and one with latch locking. The connectors are suitable for solid and stranded wires from 0.2 to 1.5 mm². The terminals use push-in spring connections. The connectors must be ordered separately.

15.1. Screw locking



15.2. Latch locking version



16. Product images



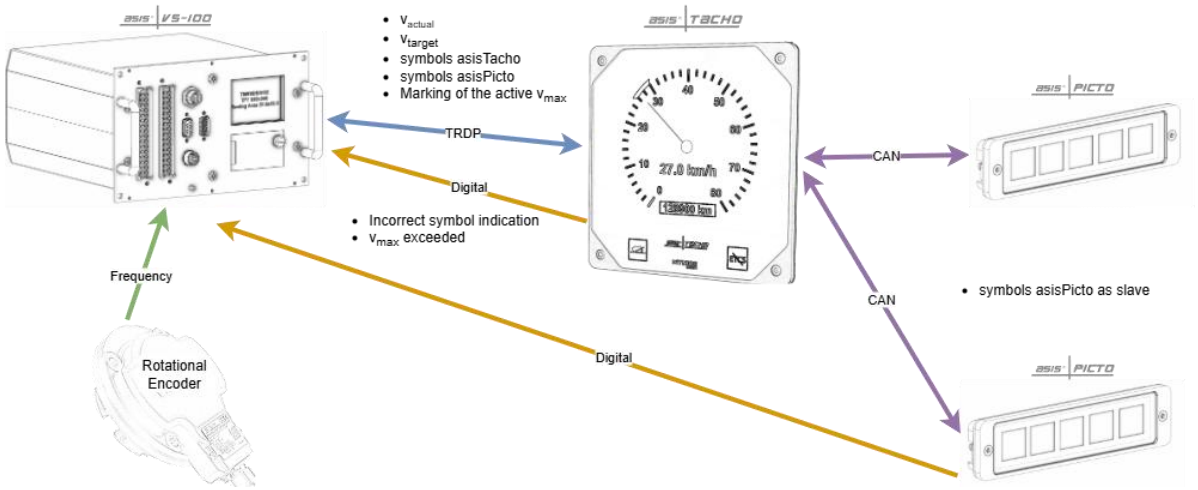




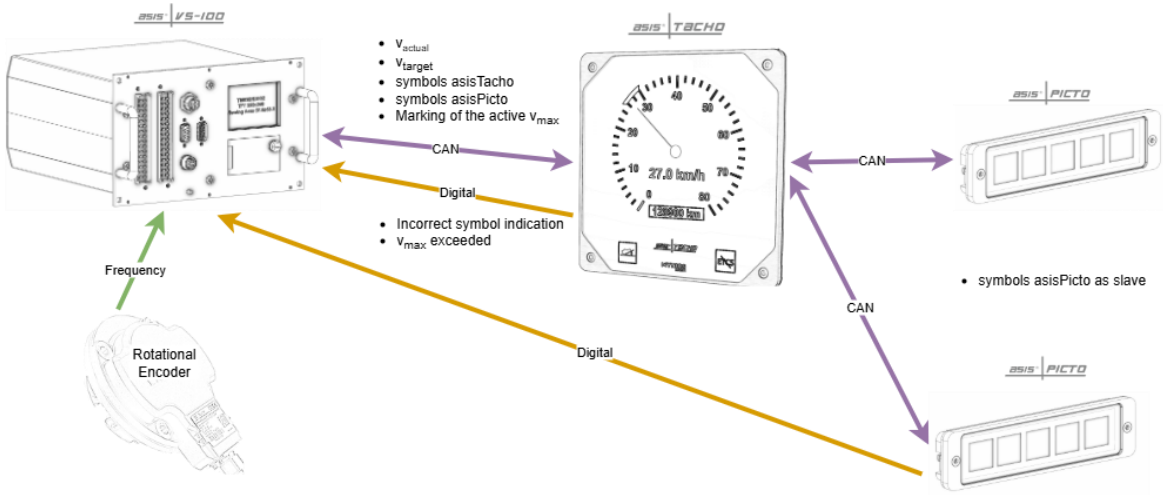


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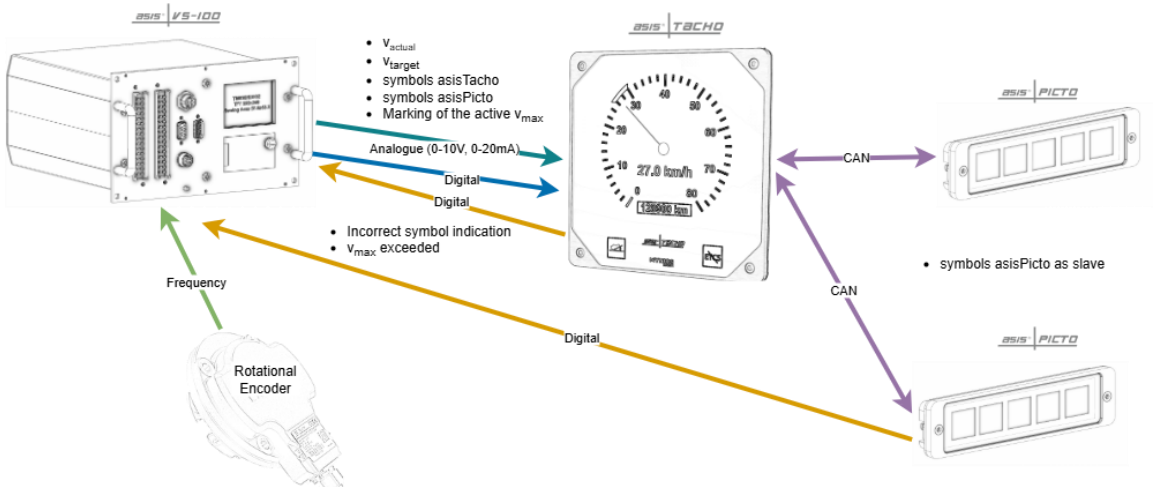
17. Application examples



Application TRDP and CAN

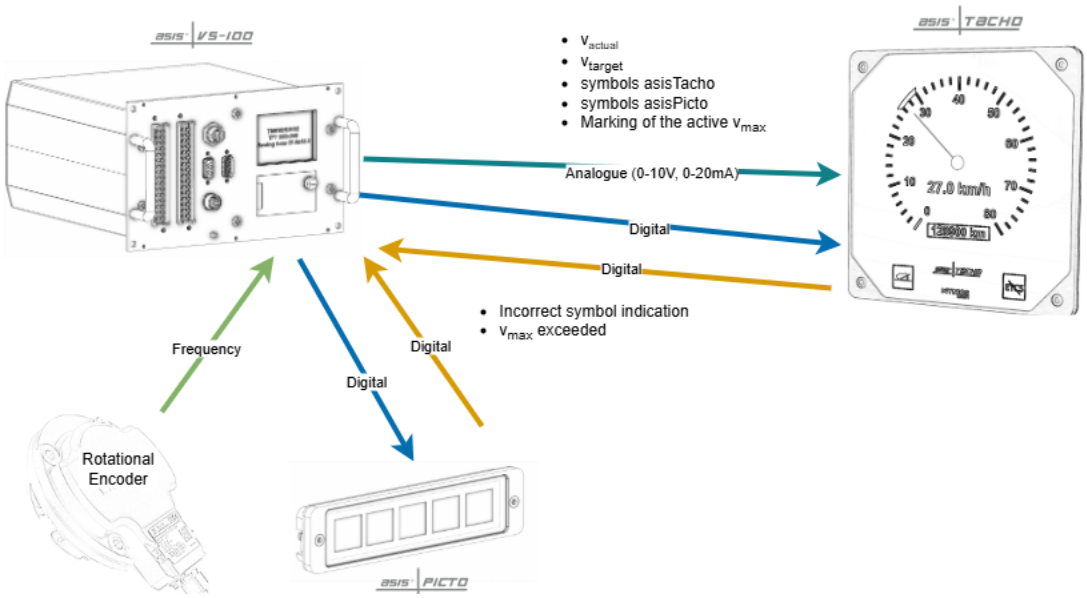


Application CAN



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Application Analogue/digital and CAN



Application Analogue/digital

18. Standards and Approvals

EN 50155:2022-06
EN 45545-2:2020-10

19. Ordering information

3562	asisTacho
project specific	Display scale, dial, colors
project-specific	Insert strip (customized)
3639	20-pin female cable connector with screw locking
3640	20-pin female cable connector with latch locking

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