

Technical data sheet

Universal audio signal encoder



Identification

Type AST-6019.00
Part No. [826019.00](#)

Product version

Hardware revision A
Software version 4.20
Datasheet version 07

Use/Application/Properties

Description Freely-programmable audio signal encoder for rail applications to play MP3 and WAV files. The audio signal encoder has a status output for signalling the operation (max. 50 mA). The sound is output via an external loud speaker with an impedance of 8 Ohm (e.g. 716368 or 826013).

Technical data

Nominal voltage range DC 24 V – 110 V
Rated voltage U_N DC 24–110 V
Rated current (at U_N) max. 200 mA @ 24 V / 45 mA @ 110 V
Volume control Configurable
Boot-up time < 200 ms
Operation temperature range -40 °C ... +70 °C (+85 °C 10 min)
Storage temperature range -40 °C ... +80 °C

Inputs

Number max. 6, binary-encodable, thus max. 63 messages
Current Consumption Depending on configuration
0,2 mA @ 24 V / 0,8 mA @ 110 V without input load
1.8 mA @ 24 V/2.4 mA @ 110 V with input load
Debounce time Configurable
Switching Threshold Configurable

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Status output

Signalisation "Device is working correct" max. 50 mA

General

Dimensions (w × h × d) 85.0 mm × 140.0 mm × 65.0 mm
Weight/unit 0.242 kg
Connection type 15 pole D-SUB male connector
Mounting Wall mounting

Environmental service conditions

Altitude 2000 m
Operating temperature class OT4: -40 °C ... +70 °C
Switch-on extended Operating temperature class ST1: OTx + 15 °C
Temperature variation class H1:no requirements
Shock/Vibration Category 1, class B
Class of supply voltage interruption S2: 10 ms
Supply change-over class C1: 100 ms
Useful life class L4: 20 years
Degree of pollution PD2
Over voltage category OV3
Socket and edge connector K2: Sockets for ICs and/or edge connectors are not used
Protective coating class PC2: lacquered on both sides
Degree of protection IP20

Failure Rate Prediction (MTBF)

Standards Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709
Failure Rates of Components – Expected values: SN 29500

Failure rate at +45 °C 1087 fit
Failure rate at +45 °C 919556 h
1 fit equals one failure per 10⁹ component hours
The indicated temperature is the mean component ambient temperature.

Comments The results are valid under following conditions:
Automotive environment or industrial areas without extreme dust levels and harmful substances
Continuous operation 8760 h per year

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Standards/Certifications

Standards	<p>EN 50155:2007: Railway applications – Rolling stock – Electronic equipment EN 50155:2021: Railway applications – Rolling stock – Electronic equipment – only testing according to chapter 13.3 Withstand voltage test: routine test with 1 s test duration EN 50121-3-2:2016+A1:2019: Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus EN 50124-1:2017: Railway applications – Insulation coordination – Part 1: Basic requirements – Clearances and creepage distances for all electrical and electronic equipment EN 61373/AC:2017: Railway applications – Rolling stock equipment – Shock and vibration tests EN 61373:1999: Railway applications – Rolling stock equipment – Shock and vibration tests EN 61373:2010: Railway applications – Rolling stock equipment – Shock and vibration tests Regulation No. EMC 06: Technical Rules on Electromagnetic Compatibility - Verification of radio compatibility of rail vehicles with railroad radio services EN 45545-2:2020: Railway applications – Fire protection on railway vehicles – Part 2: Requirements for fire behaviour of materials and components</p>
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Equipment/Spare parts

Accessories	<p>Programmer part number 826900 "AudioConfig Tool" from version 2.2.0 Software recommendations: - Audacity – Open source programm, audacity.sourceforge.net - From Text to Speech – Free online text–speech service, www.fromtexttospeech.com</p>
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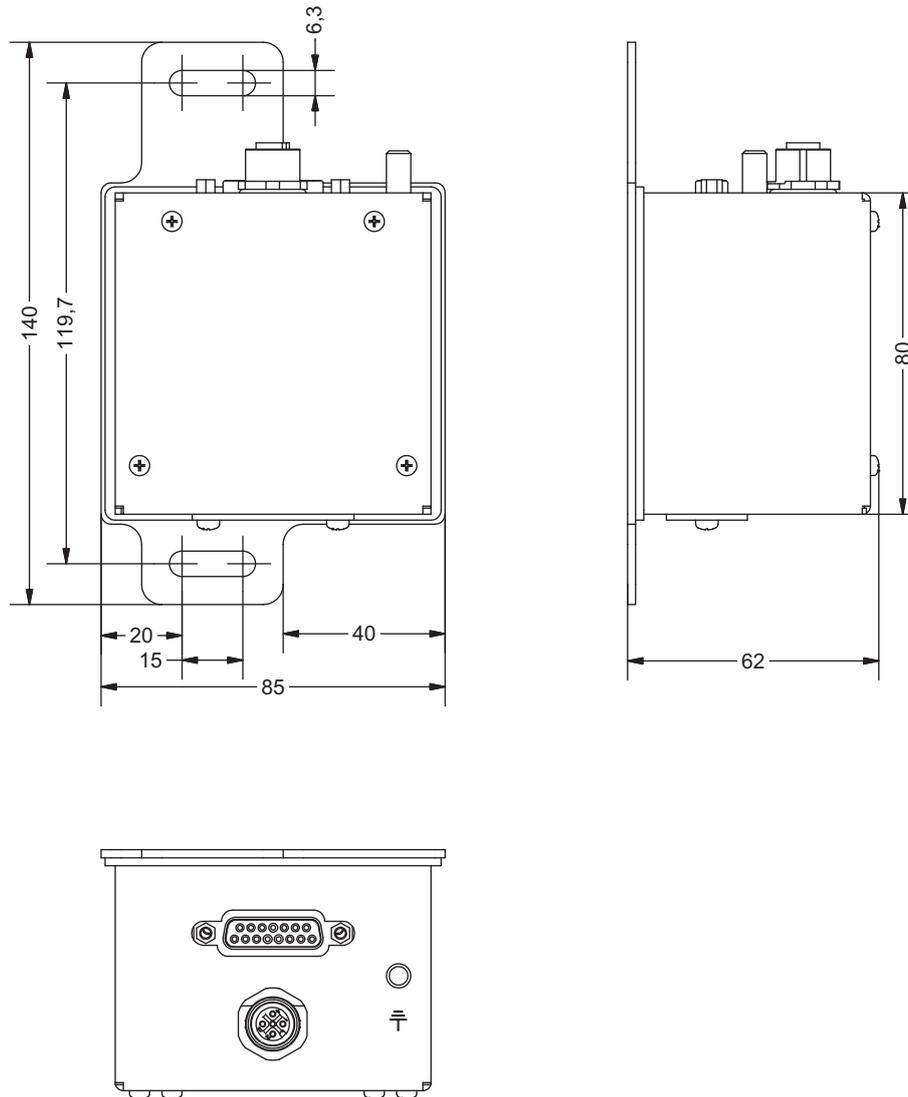
Notes and Comments

Comments	<p>The supply voltage (7/8) and the digital inputs (1-6) must have the same earth/ground (GND).</p>
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Explanation

Connection assignment	D-Sub
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Dimensions



Connection assignment

4 pole M12 female connector

Pin	Function
1	Loudspeaker
2	Loudspeaker
3	N.C.
4	N.C.

Connection assignment

PIN	function
1	Input 6 (I6)
2	Input 5 (I5)
3	Input 4 (I4)
4	Input 3 (I3)
5	Input 2 (I2)
6	Input 1 (I1)
7	Vdd(+110V)
8	Vss (0V)
9	Status (S)
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.