

FRT101 4k RF

For DC energy metering system (up to 4 kVdc.) where an outdoor transducer is required, HaslerRail provides “JEDY”, which is a combined voltage and current transducer, member of the FRT101 family.

All “JEDY” devices conform to ERA-TSI requirements and European standards that govern the use of electrical and electronic components on board rolling stock. Due to their construction characteristics, all components in the series are suitable for being installed on the roof of railway traction vehicles.

This device measures the flow of the main current by means of a shunt sensor.

The voltage at the pantograph is measured in the same apparatus by means of a connection on the top of the transducer. This solution ensures the continuity of the current flow in case of faulty sensor.

Both the voltage and the current measurement are isolated from the catenary voltage.

The standard version has output signal suitable to be directly interfaced to HaslerRail REM energy meter family devices. These outputs are completely and securely isolated from the high voltage overhead line section.



The accuracy characteristics of “JEDY” series are suitable to measure energy on board of railway vehicles compliance to ERA-TSI and EN50463 specifications (Class 0.5R) as well as transducers for the electric traction system. The architecture of the “JEDY” series makes it possible to adapt to various application scenarios.

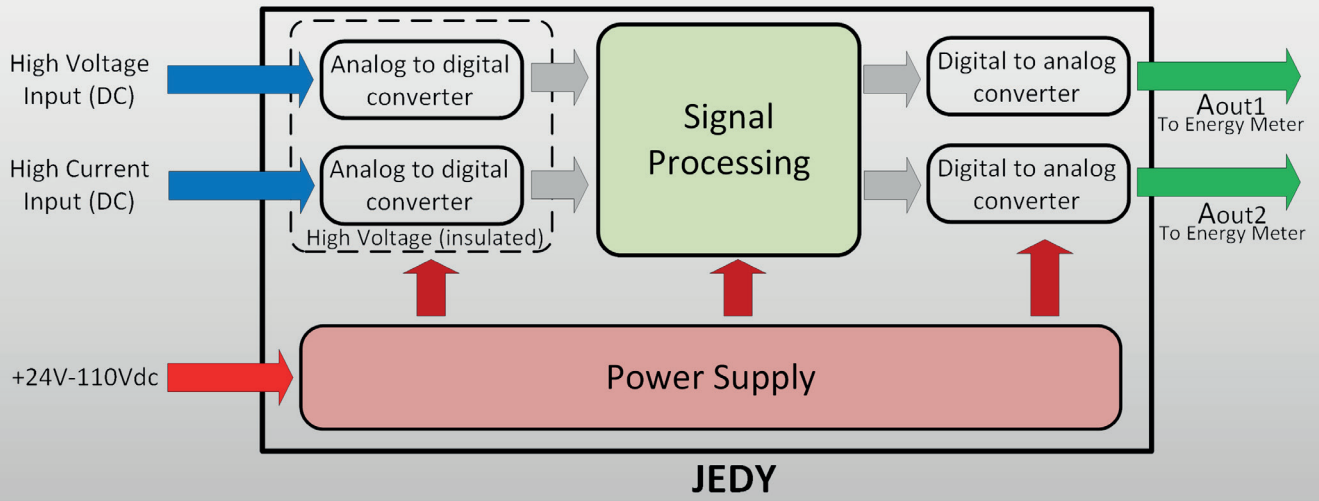
The main power supply of “JEDY” is wide range, 24-110Vdc (nominal) from battery.

The variation of power supply are in according to standard EN 50155.

The materials used guaranty also the conformity to the EN60721-3-5 (Contaminant fluids) Class 5F3 and to the environments conditions specified in EN 50125-1.

The silicone resin used has complies with EN 45545 standards for hazard level HL1 HL2 HL3 for requirements R22 and R23

JEDY is equipped with diagnostic features: a digital output that provide the status of the device.



Properties

Operational and Environmental	<ul style="list-style-type: none"> • Installation: for outdoor • Storage Temperature: -40°C to +70°C • Operating Temperature: -40°C to +55°C • IP code IP65 • Maximum Working Altitude: 1400 meters • Humidity at 40°C: 95% • Relative Humidity: 95% (quick fluctuation of temperature between -40°C to 40°C) • Contaminant Fluids (EN60721-3-5): Class 5F3 • Other Environmental Conditions: EN 50125-1
Line Voltage	<ul style="list-style-type: none"> • 750V, 1.5kV, 3kVdc nominal (according to EN50163)
Power Supply	<ul style="list-style-type: none"> • Nominal 24Vdc to 110Vdc (wide range) • Power Consumption: 12W@110V typ.; 16W@110V max
Input and Output	<ul style="list-style-type: none"> • Nominal Line Current: 1000 to 2500A • Impulse Withstand Voltage: 40kV – 1,2/50µs • Maximum Current: 1200 to 3000A • Current Analog Output Signal: -20/+20mA • Voltage Analog Output Signal: 0-20mA • Current Accuracy: 0.5R • Voltage Accuracy: 0.5R • Power Freq. Withstand Voltage: 20kV/min
Weight & Dimension	<ul style="list-style-type: none"> • Weight: 12kg • Size: 260(H) x 410(L) x 210(D)

Standards

EN 50155	Electronic equipment used on rolling stock
EN 50463-2	Energy measurement on board trains
EN 50124-1	Distance in air and surface distance
EN 50125-1	Environmental conditions
EN 50153	Protection measures against risk of electrical shock
EN 50121	Electromagnetic compatibility for rolling stock equipment
EN 50264-1	Railway rolling stock cables having special fire performance
EN 50163	Railway systems supply voltage
EN 61373	Shock and vibration test conditions
EN 45545-2	Fire protection of railway vehicles – Part 2: Requirement for fire behaviours of materials and components

