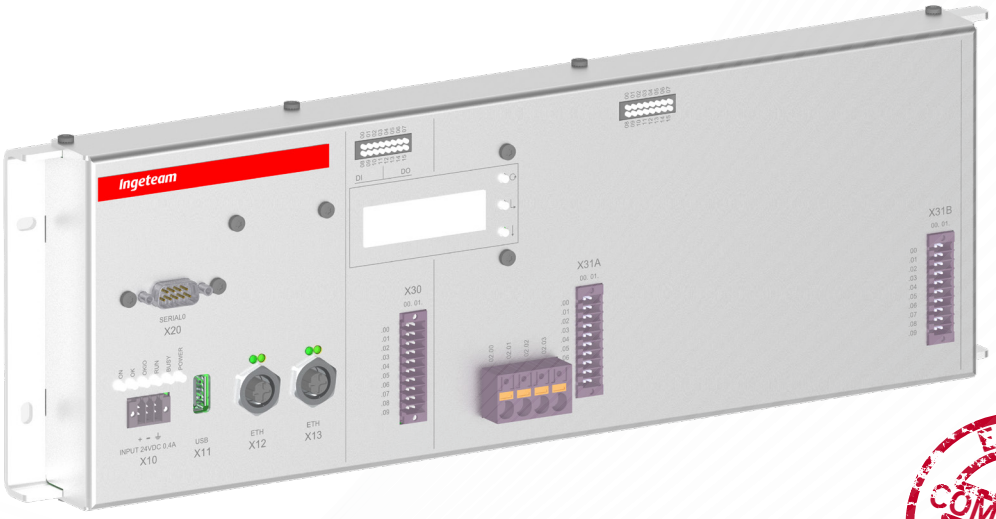
INGESYS™ DCU

Door controller SIL2
for the railway sector



EN 50155 COMPLIANT EN 45545-2

Door control system with safety level SIL2

Ingesys DCU is a door control system that enables the opening and closing, management and monitoring of doors on railway vehicles. The Ingesys DCU is designed to meet the most demanding standards, offering SIL2 safety levels that guarantee reliable and safe operation even in the most critical applications.

Compact controller according to railway standards

Controller with a modular structure and a wide range of input/output modules, both digital and analogue, to provide a cost-effective technical solution for each application.

It includes a wide variety of standard interfaces and communication protocols in the railway sector that allows its integration within the most common train communication networks of the market.

It provides programming tools compatible with the IEC61131-3 standard as well as the possibility of programming in C/C++ and Matlab®/Simulink®. A complete library of functions (mathematical, regulation, data filing, communications, etc.) helps the user to develop the application.

The integration of a web server allows the user to diagnose and monitor remotely the system easily and flexibly to suit their needs.

BENEFITS

- Compact and robust design.
- Tailor-made solution at optimum cost.
- Compliance with railway standards.
- High level of safety up to SIL2.

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	INGESYS™ DCU
POWER SUPPLY	
Main Power Supply*	24Vdc (+25% / -30%) Class S2 (EN 50155:2017) 36-48Vdc (+25% / -30%) Class S2 (EN 50155:2017) 72-110Vdc (+25% / -30%) Class S2 (EN 50155:2017)
Maximum Consumption	24V @ 300mA / 110V @ 80mA
Power Dissipation	8W (max.)
PROCESSOR MODULE	
IC2-P Main Processor	32bit, Dual Core 800Mhz
Memory	512MB Program: 4MB Data: up to 4MB Non-volatile data: 128KB Data register: 2GB (optional up to 8GB)
Program	IEC61131-3 (specific functions, communication and control library), C/C++, Matlab/Simulink
Monitoring and Maintenance	Integrated web server Local LCD text display (optional) USB port for upload/download: firmware, application, data logging ...
LAN	1 additional Ethernet, 0/100Base TX M12 (optional) Protocols: Modbus TCP/UDP, TRDP, Ethernet/IP, PROFINET I/O, SFTP, DHCP client, DNS client, SNTP, Syslog
Fieldbuses	Fieldbus up to 4 selectable ports per CPU: CAN (CANOpen M/S,CANRaw) Profibus DP, MODBUS RTU, RS232/RS485, MVB ESD+, MVB EMD
INPUT/OUTPUT MODULES**	
Digital Inputs	16 DI (24Vdc @ 3mA) (PNP or NPN) 8 DI (24-110Vdc) (PNP or NPN)
Digital Outputs	16 DO (HSD 24Vdc @ 500mA) (PNP or NPN) 8 DO (24VDC @ 2A) 8 DO (24-110Vdc @ 0.5A)
Relay Outputs	3 electromechanical relay outputs with change-over contacts (150V @ 5A)
Digital I/O Mixed	8 DI (24Vdc @ 5mA) + 8 DO (HSD 24Vdc @ 500mA) 12 DI (24Vdc @ 5mA) + 4 DO (HSD 24Vdc @ 500mA) 4 DI (24Vdc @ 5mA) + 12 DO (HSD 24Vdc @ 500mA)
Analogue Inputs	8 fast synchronous AIs, up to 100Ks / s, for (± 10V or ± 20mA) or IEPE accelerometers 10 temperature inputs (PT100, NTC or Thermocouple)
Analogue Outputs	8 AO (±10V or ± 20mA)
Motor Control	4 DI (24Vdc@ 5mA) + 1 encoder input + 1 PWM output (5A) with half bridge topology. 6 DI and 6 DO (24Vdc@5mA) + 12 DI-S + 6 DO-S + 1 safety encoder input + 1 safety PWM output (5A) with half-bridge topology with SIL2 functional safety certification.
Audio	2 audio outputs, 2W
STANDARDS	
Railway functional safety	EN50126:2017 EN50129:2018
Immunity and Emission	EN 50121-3-2:2017+A1:2019
Temperature Range	EN 50155:2021 [Class OT4 (-40ºC at +70ºC)]
Vibration	EN 45545-2:2020+A1:2023
Fire Protection	EN 45545-2:2020+A1:2023
MECHANICAL CHARACTERISTICS	
Assembly	Panel Mount
Material	Aluminium
Dimensions (L x W x D)	(149mm to 524mm) *** x 135mm x 34.6mm

Notes
* Optional.
** A combination of up to 10 modules.
*** Depending on the number of I/O modules selected, each with a width of 37.5 mm.

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