

Expansion Module

HZS 541-1S



The external HZS 541-1S expansion module provides users of biomass heating systems with additional 230 V AC relay outputs, analog inputs to connect PT1000/KTY81 sensors or room units and a digital input.

The electronics are built into an IP2x-sealed plastic housing and can be mounted on a wall or DIN rails. With installation into the IP2x-sealed plastic housing, the seal required for the heating rooms is achieved using PG screw fittings. Replacement fuses are also provided in the cover of the plastic housing. Communication with the other expansion modules or CPU is made over the CAN bus.

Performance Data

Processor	AT90CAN32
Internal program memory (Flash-PROM)	32-kbytes (Flash)
Internal data and/or program buffering (internal EEPROM)	1-kbyte (Flash), no buffer battery required!
Interfaces	1x CAN bus

Electrical Requirements

Supply voltage for the relays and internal electronics	230 V AC $\pm 10\%$
Power supply frequency	50-60 Hz
Current consumption electronics	15 mA
Current consumption of electronics and connected loads	maximum 10 A
Fuses	10 A (F2) for the relay outputs 250 mA (F1) for the transformer

Relais Specifications

Output voltage	230 V
Max. Output current	3 A
Number of relays	4
Relay types	normally open
Switching time	< 10 ms

Temperature Input Specifications for KTY81-110 / KTY81-122 or (PT1000)

Number of inputs	3		
Applicable sensor type	KTY81-110	KTY81-122	PT1000
Measurement range	-30 ... +145 °C	-30 ... +145 °C	-50 ... +170 °C
Sensor range	623.6-2170 Ω	629.9-2191.9 Ω	803.1-1647.7 Ω
Resolution	0.2 °C	0.2 °C	0.2 °C
Typical current measurement	1.1 mA		
Input resistance	8.2 k Ω		
Input filter	100 ms		
Measurement precision	± 0.5 °C	± 0.5 °C	± 0.5 °C

Room Unit Specifications

Number of room unit connections	1		
Temperature sensor type	PT1000/KTY81-110/KTY81-122		
Temperature sensor range	-25 ... +100 °C		
Sensor temperature -25 °C	PT1000/typ. 902 Ω	KTY81-110/typ. 654 Ω	KTY81-122/typ. 660 Ω
Sensor temperature 100 °C	PT1000/typ. 1385 Ω	KTY81-110/typ. 1696 Ω	KTY81-122/typ. 1713 Ω
Mode selector switch (MSS)	night	automatic	day
Set value change +5 °C	typ. 1335 Ω	typ. 1665 Ω	typ. 1004 Ω
Set value change 0 °C	typ. 1380 Ω	typ. 1710 Ω	typ. 1050 Ω
Set value change -5 °C	typ. 1423 Ω	typ. 1753 Ω	typ. 1092 Ω
Resolution temperature sensor	0.6 Ω		
Resolution MSS set value change	0.6 Ω		
Measure management temperature sensor	± 2 Ω		
Measurement precision MSS set value change	± 2 Ω		
Input resistance	4.7 k Ω		
Input filter	100 ms		

Digital Input Specifications

Input voltage	typically +24 V	maximum +30 V
Signal level	low: <+8 V	high: >+14 V
Switching threshold	typically +11 V	
Input current	5 mA at +24 V	
Input delay	typically 5 ms	
Number	1	

Terminal Requirements

Connection technology	Connector terminals are not included in delivery! The following sprint terminals are required: 5x FK-MCP1.5/2-ST-3.5 Phoenix Contact spring terminal connector 2x FK-MCP1.5/3-ST-3.5 Phoenix Contact spring terminal connector 4x FK2.5/3-ST-5.08 Phoenix Contact spring terminal connector 1x FK2.5/4-ST-5.08 Phoenix Contact spring terminal connector	
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Environmental Conditions

Storage temperature	-20 ... +70 °C	
Operating temperature	0-60 °C	
Humidity	0-95 %, non-condensing	
EMC stability	according to EN 61000-6-2:2001	
Shock resistance	EN 60068-2-27	150 m/s ²
Housing protection type	IP2x	

Article Number and Miscellaneous

Article number	05-895-541-1S	
Hardware version	2.x	
Station number	set over DIP-switch, maximum of 255 participants possible	
HW classes	HZS54x	

Notes

