

Basic Module Regulation Center HZS 5420



The HZS 5420 basic module regulation center is used for heat distribution in a modular heating system. All interfaces and connections for the heat distribution are located on the control board. Communication with the CPU (HZS 77x) and the control panel is established over the CAN bus.

The electronics of the basic module regulation center are implemented in a plastic housing, which is designed for wall mounting. Cable clamps provide strain relief in the housing with for the connected cables.

Performance Data

Controller	LPC11C24
Controller frequency	48 MHz
Interfaces	1x CAN IN/OUT 1x JTAG
Internal program memory	32-kbytes (Flash)
Internal data and/or program buffering (internal EEPROM)	1-kbyte (Flash), no buffer battery required!
Memory for module identification and calibration data	4-kbyte (Flash)

Electrical Requirements

Power supply for the relay and internal electronics	230 V AC $\pm 10\%$
Power supply frequency	50-60 Hz
Electronics current consumption	typically 50 mA maximum 115 mA
Current consumption of electronics and connected loads	maximum 5 A
Fuses	400 mA (F1) for primary transformer fuse 1.0 AT (F2) for secondary transformer fuse 6.3 AT (F3) for 230 V AC relay output

+24 V Supply for External Consumers

Available current for external users (e.g. HZS 352)	maximum 500 mA
Connector	CAN IN/CAN OUT

Digital Relay Output Specifications

Number	11
Relay types	normally open
Relays	RT 314024
Switching range	16.8-30 V DC
Switching current	typically 9 mA at +24 V
Switching time	< 10 ms
Switching power	see data sheet: Tyco Schrack RT1 series
Fuse	6.3 AT
Terminal clamp	3-pin Weidmüller LSF-SMT5.0/3/180 3.5 SW 4-pin Weidmüller LSF-SMT5.0/4/180 3.5 SW 5-pin Weidmüller LSF-SMT5.0/5/180 3.5 SW

Digital Relay Output Potential-free Specifications

Number	1
Relay types	Changeover contact potential-free
Relays	RT 314024
Switching range	16.8-30 V DC
Switching current	typically 9 mA at +24 V
Switching time	< 10 ms
Switching power	see data sheet: Tyco Schrack RT1 series
Fuse	None
Terminal clamp	3-pin Weidmüller LSF-SMT5.0/3/180 3.5 SW

Specifications for the +24 V DC Digital Inputs

Number	3
Input voltage	typically +24 V maximum +30 V
Signal level	low: < +5 V high: > +15 V
Switching threshold	typically +11 V
Input current	5 mA at +24 V
Input delay	typically 5 ms
Fuse	0.2 A PTC fuse
Connector	2-pin Weidmüller LSF-SMT_3.5/2/180_3.5_SW

Specification of Digital Input +24 V Frequency Measurement Input +24 V

	Number	1			
	Operating mode	Digital Input (Default)		Frequency Input	
	Input voltage	typically +24 V	maximum +30 V	typically +24 V	maximum +30 V
	Signal level	low: <+5 V	high: >+15 V	low: <+5 V	high: >+15 V
	Switching threshold	typically +11 V		typically +11 V	
	Input current	5 mA at +24 V		5 mA at +24 V	
	Input delay	typically 5 ms		typically 0.1 ms	
	Input frequency	-		0-1 kHz	
	Signal evaluation	-		1x	
	Measured value	0/1		0-1000	
	Goal time	-		1 s	
	Update	-		10 ms	
	Protection	0,2 A PTC fuse			
	Connector	2-pin Weidmüller LSF-SMT_3.5/2/180_3.5_SW			

0-10 V Analog Outputs Specifications

Number	2	
Output voltage	10 V PWM	0 ...+10 V
Base frequency	250 Hz	-
Output value	0-255	0-10000
Resolution	8 bits (256d)	50 mV
Accuracy	±1 % of max. output value	
Output voltage capacity	maximum 10 mA	
Connector	2-pin Weidmüller LSF-SMT_3.5/2/180_3.5_SW	

Temperature Inputs KTY81-110/PT1000 Specifications

Number	10		
Measurement range	Standard (Default)		Extended
Sensor type	KTY81-110	PT 1000	PT1000
Measurement range	-30 ... +130 °C		-30 ... +180 °C
Sensor range	623,6-2023,4 Ω	882,1-1498,3 Ω	882,2-1684,8 Ω
Measurement value	-300 ... +1300		-300 ... +1800
Resolution	0,1 °C		
Measurement precision	±0.5 % of measurement range		
Typical current measurement	< 0,3 mA		

Input resistance	33 kΩ
Input filter	100 ms
Short-circuit and sensor break detection	yes
Connector	2-pin Weidmüller LSF-SMT_3.5/2/180_3.5_SW

Temperature Inputs KTY81-110 with 5-step resp. PT1000 with 4-step Connection Specifications

		2				
Number of channels						
Sensor type		KTY81-110		PT1000		Widerstand
Measurement range		0-50 °C		0-40 °C		704-3276 Ω
Measurement value		0-500		0-400		7040-32760
Resolution		0.1 °C				0.1 Ω
Sensor range		761-3261 Ω		996-1777 Ω		-
Connection	Step 0:	0 Ω	761-1261 Ω	0 Ω	996-1193 Ω	-
	Step 1:	500 Ω	1261-1761 Ω	197 Ω	1193-1387 Ω	
	Step 2:	1000 Ω	1761-2261 Ω	391 Ω	1387-1580 Ω	
	Step 3:	1500 Ω	2261-2761 Ω	584 Ω	1580-1777 Ω	
	Step 4:	2000 Ω	2761-3261 Ω			
Measurement precision		±0.5 % of measurement range				
Typical current measurement		< 0.3 mA				
Input resistance		33 kΩ				
Input filter		100 msec				
Short-circuit and sensor break detection		yes				
Connector		2-pin Weidmüller LSF-SMT_3.5/2/180_3.5_SW				

Environmental Conditions

Storage temperature	-20 ... +85 °C	
Operating temperature	0-60 °C	
Humidity	0-95 %, non-condensing	
EMC resistance	in accordance with EN 61000-6-2 (industrial area)	
EMC noise generation	in accordance to EN 61000-6-3 (living area)	
Vibration resistance	EN 60068-2-6	3.5 mm from 5-8.4 Hz 1 g from 8.4-150 Hz
Shock resistance	EN 60068-2-27	150 m/s²
Protection type	EN 60529	IP20

Article Number and Miscellaneous

Article number	05-895-5420
Station number	can be set with HEX switch (S1), maximum of 16 participants possible
Dimensions	313 x 175 x 75.5 mm (W x H x D)



HEATING CONTROL