

100 kW Expansion Module HZS 536-1



- 4x relay output
- 2x phase angle control
- 1x thermo element input (NiCr-Ni)
- 1x thermo resistor input (KTY 10-62)
- 3x digital input
- 230 V AC supply (in and output)
- CAN-bus connection with +24 V supply

Controller Performance Data

Controller	AT90CAN32
Command execution time	approximately 0.7 μ s
Interface connections	1x CAN
Internal program memory	32 kByte (Flash)
Internal data and/or program buffering (internal EEPROM)	1-kbyte (Flash) No buffer battery required!

Power Supply

Power supply for the relay and internal electronics	230 V AC
Fuse	10 A relay outputs 2.5 A for phase angle control outputs
Internal electronics power supply	+24 V (from the HZS 511)
+24 V current consumption	maximum 100 mA (without relays) maximum 140 mA (with relays)

Digital Outputs Specifications D002-04: Relay outputs - 230 V AC/10 A

Number	3
Relay type	normally open
Relays	RT314024 WG
Switching range	16.8-30 V DC
Switching current	typically 11 mA at + 24 V
Switching time	circa 10 ms
Switching power	see data sheet: Tyco Shack RT1 series
Fuse	T 10 A
Connection technology	3x 3-pin, RM 5.08
Application	D002: X4 D003: X5 D004: X6

Digital Output Specifications D001: Relay Output - 230 V AC/10 A

Number	1
Relay type	normally open
Relays	RT31L024 WG
Switching range	16.8-30 V DC
Switching current	typically 11 mA at + 24 V
Switching time	circa 10 ms
Switching power	see data sheet: Tyco Schrack RT1 series
Max. Output current	10 A output
Max. Inrush current	80 A or 20 ms 30 A for 4 s
Fuse	T 10 A
Connection technology	1x 3-pin, RM 5.08
Application	D001: Vacuum turbine X3

Phase Angle Controller Specifications

Number of Triac outputs	2
Operation mode	phase angle control angle of ignition 0-155° value setting 0-255 (0-100 %) phase shift through load > -27° to < 72°
Solid state relay	Sharp S202 S11
Switching range	3-30 V
Switching current	typically 3 mA at +5 V
Switching time	≤ 0.1 ms
Switching power	230 V/3.2 A at 0 °C ambient temperature 230 V/2.5 A at 30 °C ambient temperature 230 V/1.2 A at 80 °C ambient temperature details can be found in the S202 data sheet
Zero-point switching	no
Protective circuit	yes (Varistor on output)
Fuse	T 2.5 A
Connection technology	2x 3-pin, RM 5.08
Application	P001: Phase angle control output X7 P002: Phase angle control output X8

NiCr-Ni Type K Analog Input Specifications

Number of channels	1
Sensor Type	NiCr-Ni Type K
Measurement range	0-1200 °C
Sensor range	0-48.8 mV
Resolution	2.0 °C
Measurement precision	±5.0 °C
Input resistance	20 kΩ
Input filter	30 ms
Connection technology	2-pin Phoenix plug RM 3.5 mm
Anschlussstecker	2-pol. Phoenix Stecker RM 3,5 mm (optional)

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	3	
Connection technology	3-pin Phoenix RM 3.5 mm	

KTY10-62 Analog Input Specifications (-25 ... +100 °C)

Number of channels	1
Sensor Type	KTY10-62 (ohmic temperature sensor)
Measurement range	-25 ... +100 °C
Sensor range	1308,9-3399,9 Ω
Resolution	0.4 °C
Measurement precision	±1.0 °C
typical current measurement	0.9 mA
Input resistance	8.2 kΩ
Input filter	100 ms
Connection technology	2-pin Phoenix plug RM 3.5 mm (optional)
Application	clamping point compensation the KTY sensor is located on the control

Terminal Requirements

Connection technology	Connector terminals are not included in delivery! The following spring terminal connectors are required: 8x 3-pin FK-C 2.5/ 3-ST-5.08 Phoenix Contact spring terminal connector RM 5.08 2x 2-pin FK-MCP 1.5/ 2-ST-3.5 Phoenix Contact spring terminal connector RM 3.5 3x 3-pin FK-MCP 1.5/ 3-ST-3.5 Phoenix Contact spring terminal connector RM 3.5 2x 4-pin FK-MCP 1.5/ 4-ST-3.5 Phoenix Contact spring terminal connector RM 3.5
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Environmental Conditions

Storage temperature	-20 ... +70 °C	
Operating temperature	0 ... +60 °C	
Humidity	0-95 %, uncondensed	
EMV stability	according to EN 61000-6-2:2001	
Shock resistance	EN 60068-2-27	150 m/s ²

Article Number and Miscellaneous

Article number	05-895-536 -1
Hardware version	1.x