

MODBUS TABLE ORGANIZATION

Starting Address of the Group Registers (Dec)	Starting Address of the Group Registers (Hex)	System Version (Release)	System Version (Build)	Group Name (Text)	Group Code (Hex)	Group Complexity (Hex)	Group Version (Hex)
28672	7000	1	05	Differential Electric Protection	73 05	10	01 00
20480	5000	1	05	Three-phase Electric Measurement	7103	10	01 00
32768	8000	1	05	Single-channel Thermal Measurement	81 00	10	01 00

MODBUS PROTOCOL DETAILS

Function Code (Dec)	Exception Codes (Dec)	Data Encoding
2 (Read Discrete Inputs)	1, 2, 3	"Big Endian" (most significant byte first)
4 (Read Input Registers)	1, 2, 3	"Big Endian" (most significant byte first)

MODBUS OVER SERIAL DETAILS

Physical Layer	Trasmission Modes	Device Addressing	Baud Rates (bit/s)	Data Bits	Data bits trasmission sequence	Parity	Stop Bits
standard EIA/TIA 485 (RS-485) two-wire configuration	RTU	1÷247	programmable (1200, 2400, 4800, 9600, 19200, 38400)	8	Least significant bit first	NONE	1

MASTER/SLAVE COMMUNICATION TIMING

Timer Description	Timer Value (msec)
Inter-character time-out	< 1,5 character times
Response delay (from master request)	-
Delay Time (between two master trasmissions)	-

REFER ALSO TO: www.modbus.org - MODBUS over serial line specification and implementation guide V1.02
- MODBUS APPLICATION PROTOCOL SPECIFICATION V1.1b

NOTE: File and printed copies of this document are not subject to document change control.

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [bit]	Description	Note	Read Function Codes (Dec)	Data Storing
28673	28672	7000	3	Differential Electric Protection		2	
28673	28672	7000	1	Differential pre-alarm (>threshold IΔ1)	The information reported here "self-resets" when the condition that generated it ends.	2	
28674	28673	7001	1	Differential alarm (>threshold IΔ2)	The information reported here "self-resets" when the condition that generated it ends.	2	
28675	28674	7002	1	Over-temperature alarm (>threshold T)	The information reported here "self-resets" when the condition that generated it ends.	2	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [bit]	Description	Note	Read Function Codes (Dec)	Write Function Codes (Dec)	Data Storing
				(no COILS availables)				

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing
20481	20480	5000	6		Three-phase Electric Measurement							
20481	20480	5000	5		RESERVED (returns 84h error)							
20486	20485	5005	1		Differential Current Value	unsigned integer	1	mA		Expressed on "numeric coding"; without mark (fixed more significant bit = 0)	4	
28673	28672	7000	7		Differential Electric Protection							
28673	28672	7000	2		RESERVED (returns 84h error)							
28675	28674	7002	1		Last Release data Buffer: "Tripped" type reading only bit reply					If the value is not available, the value 8000h is returned	4	
				0	Differential P. Relay Tripped Reply						4	
				1	Over-temperature P. Relay Tripped Reply						4	
				15÷2	RESERVED (returns "0")						4	
28676	28675	7003	2		Last Release data Buffer: interrupted current or temperature ("numeric coding")		1	mA, °C		If the value is not available, the value 80000000h is returned	4	
28678	28677	7005	1		G1 "main setting"- differential: levels		1	mA			4	
28679	28678	7006	1		G1 – differential: times		1	msec			4	
32769	32768	8000	1		Single-channel Thermal Measurement							
32769	32768	8000	1		Sensor 1 Temperature Value		1	°C			4	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Codes (Dec)	Write Function Codes (Dec)	Data Storing
					(no HOLDING REGISTERS availables)								