

ISOM K-15EV

Product reference: 47250105

Version: 01



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1. MODBUS REGISTERS

Register	Property	Description	Format	Unit	Value range
999	RO	Number of Modbus measured values	UINT16	---	0..3
1000-1003	RO	Insulation fault 71=no alarm 1=prewarning 1=alarm 102=earth connection device fault			See measured values field.
1004-1007	RS	---	---	---	---
1008-1011	RO	Voltage/under/over/ 76=no alarm 77=alarm 78=alarm	---		See measured value field.
3000-3004	RW	Reserved	---	---	---
3005	RW	Pre-alarm value resistance measurement "R1"	UINT16	kOhm	R2...500
3006	RW	Reserved	---	---	---
3007	RW	Alarm value resistance measurement "R2"	UINT16	kOhm	1..R1
3008	RW	Activation alarm value undervoltage "U<"	UINT16	---	0=Inactive, 1=Active
3009	RW	Alarm value undervoltage "U<"	UINT16	V	30...U>
3010	RW	Activation alarm value overvoltage "U>"	UINT16	---	0=Inactive, 1=Active
3011	RW	Alarm value overvoltage	UINT16	V	U< ... 1.15k
3012	RW	Latching trip	UINT16	---	0=Inactive, 1=Active
3013	RW	Operating mode of relay 1 "R1"	UINT16	---	0=N.O, 1=N.C
3014	RW	Operating mode of relay 2 "R2"	UINT16	---	0=N.O, 1=N.C
3015	RW	Bus addr	UINT16	---	0..247 (0=Broadcast) Default = 3
3016	RW	Baud rate	UINT16	---	1=1.2k 2=2.4k 3=4.8k 4=9.6k (default) 5=19.2k 6=38.4k 7=57.6k 8=115.2k
3017	RW	Parity	UINT16	---	0=8N1 (default) 1=8O1 2=8E1 3=8N2
3018	RW	Startup delay "t" during service start	UINT16	S	0..10
3019	RW	Response delay "ton" for relays 1&2	UINT16	S	0..99
3020	RW	Delay on release "toff" for relays 1&2	UINT16	S	0..99
3021	RW	Repetition time "test" for automatic device test	UINT16	S	0=OFF, 1=1h 2=24h
3022-3023	RW	Reserved	---	---	---

Register	Property	Description	Format	Unit	Value range
3026	RW	Request stop mode	UINT16	---	0=Stop 1=Enable
3027	RW	Alarm assignment of relay 1 "R1"	UINT16	---	Bit 15...Bit 0
3028	RW	Alarm assignment of relay 2 "R2"	UINT16	---	Bit 15...Bit 0
8003	WO	Factory setting for all parameters, including comms.	UINT16	---	0x6661 "fa"
8004	Wo	Factory setting only for user parameters only (no comms).	UINT16	---	0x5445 "TE"
8005	WO	Start device test	UINT16	---	0x5445 "TE"
8006	WO	Clear trip / fault	UINT16	---	0x434C "CL"
9800-9809	RO	Device name	UINT16 - ASCII		2 characters per word: SOCOMEK ISOM K15EV
9820	RO	Software ID number	UINT16	---	
9821	RO	Software version #	UINT16	---	
9822	RO	Software version year	UINT16	---	
9823	RO	Software version month	UINT16	---	
9824	RO	Software version day	UINT16	---	
9825	RO	Modbus driver version	UINT16	---	

2. MEASURED VALUE FIELD

2.1. Measured values

1000		1001		1002		1003	
HiByte	LoByte	HiByte	LoByte	HiByte	LoByte	HiByte	LoByte
IEEE754 float point value				Alarm / TestType (AT&T)	Range and unit (R&U)	Channel description	

2.2. Floating point value

IEE 754 format

S=Sign, E=Exponent, M=Mantissa

WORD	0x00															
BYTE	High byte								Low byte							
BIT	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	S	E	E	E	E	E	E	E	E	M	M	M	M	M	M	M

WORD	0x01															
BYTE	High byte								Low byte							
BIT	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

2.3. AT&T alarm type and test type

Bit	Description	7	6	5	4	3	2	1	0
Alarm type	No alarm	X	X	X	X	X	0	0	0
	Pre-warning	X	X	X	X	X	0	0	1
	Device error	0	0	X	X	X	0	1	0
	Reserved	X	X	X	X	X	0	1	1
	Warning	X	X	X	X	X	1	0	0
	Alarm	X	X	X	X	X	1	0	1
	Reserved	X	X	X	X	X	1	1	0
	Reserved	X	X	X	X	X	...	...	...
	Reserved	X	X	X	X	X	1	1	1
Test	No test	0	0	X	X	X	X	X	X
	Internal test	0	1	X	X	X	X	X	X
	External test	1	0	X	X	X	X	X	X

2.4. Range and unit

Bit	Description	7	6	5	4	3	2	1	0
Unit	Invalid (init)	-	-	-	0	0	0	0	0
	No unit	-	-	-	0	0	0	0	1
	Ohms	-	-	-	0	0	0	1	0
	A	-	-	-	0	0	0	1	1
	V	-	-	-	0	0	1	0	0
	%	-	-	-	0	0	1	0	1
	Hz	-	-	-	0	0	1	1	0
	Baud	-	-	-	0	0	1	1	1
	F	-	-	-	0	1	0	0	0
	H	-	-	-	0	1	0	0	1
	°C	-	-	-	0	1	0	1	0
	°F	-	-	-	0	0	0	1	1
	Second	-	-	-	0	1	1	0	0
	Minute	-	-	-	0	1	1	0	1
	Hour	-	-	-	0	1	1	1	0
	Day	-	-	-	0	1	1	1	1
	Month	-	-	-	1	0	0	0	0
Range of validity	Actual value	0	0	X	X	X	X	X	X
	Value is lower	0	1	X	X	X	X	X	X
	Value is higher	1	0	X	X	X	X	X	X
	Invalid value	1	1	X	X	X	X	X	X

2.5. Alarm assignment of relays

Bit	Indication	Description
0	Reserved	Always 0 when reading
1	All LEDs flashing	Device error
2	Yellow and green LED ON	Pre-alarm R1, fault Rf at L1/+
3	Yellow and green LED ON	Pre-alarm R1, fault Rf at L2/-
4	All LEDs ON	Alarm R2, fault Rf at L1/+
5	All LEDs ON	Alarm R2, fault Rf at L2/-
6	Green On, Amber Flash	Alarm message Un - Undervoltage
7	Green On, Red Flash	Alarm message Un - Overvoltage
8	All LEDs ON	Manually started self test
9	-	-
10	Reserved	0 when read
11	Reserved	0 when read
12	Reserved	0 when read
13	Reserved	0 when read
14	Reserved	0 when read
15	Reserved	0 when read

2.6. Channel descriptions

Value (dec)	Measured value description / alarm	Comments
0		
1	Insulation fault	
71	Insulation fault	Resistance Rf in ohms
76	Voltage	
77	Undervoltage	
78	Overvoltage	
82	N/A	
86	N/A	
101	Connection system	
102	Connection earth	
115	N/A	
129	Device error	
145	Own address	

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