

Modbus Database for MK2200 Rev. A

Address		Description	Format code	Note
Dec	Hex			
Read only		Product information	Functions 3 or 4	
0	0000	Relay description 1 & 2	F10	MK
1	0001	Relay description 3 & 4	F10	22
2	0002	Relay description 5 & 6	F10	00
3	0003	Manufacturer 1 & 2	F10	MI
4	0004	Manufacturer 3 & 4	F10	KR
5	0005	Manufacturer 5 & 6	F10	O<space>
6	0006	Firmware version	F10	A <x>
7 - 13	0007 – 000D	Reserved*		
14	000E	Serial number	F60	
15	000F	Reserved*		
Read only		Measurements	Functions 3 or 4	
16	0010	Phase L1 current	F11	Unit 0.01A
17	0011	Phase L2 current	F11	Unit 0.01A
18	0012	Phase L3 current	F11	Unit 0.01A
19	0013	Phase L0 current	F11	Unit 0.01A
20 - 50	0014 – 0032	Reserved*		
Read only		Relay output status	Functions 3 or 4	
51	0033	R1 to R5 status	F12	
52 - 60	0034 – 003C	Reserved*		
Read/Write		Protection Settings	Functions 3, 4, or 6**	
61	003D	Group A, I > phase low-set O/C	F13	Unit 0.01A
62	003E	Group B, I > phase low-set O/C	F13	Unit 0.01A
63	003F	Group A, K phase TMS O/C	F14	
64	0040	Group B, K phase TMS O/C	F14	
65	0041	Group A, t >	F15	Unit 0.01s
66	0042	Group B, t >	F15	Unit 0.01s
67	0043	Group A, I >> phase high-set O/C	F16	Unit 0.01A
68	0044	Group B, I >> phase high-set O/C	F16	Unit 0.01A
69	0045	Group A, t >>	F15	Unit 0.01s
70	0046	Group B, t >>	F15	Unit 0.01s
71	0047	Group A, lo > low-set E/F	F17	Unit 0.01A
72	0048	Group B, lo > low-set E/F	F17	Unit 0.01A
73	0049	Group A, Ko TMS E/F	F14	
74	004A	Group B, Ko TMS E/F	F14	

75	004B	Group A, to >	F15	Unit 0.01s
76	004C	Group B, to >	F15	Unit 0.01s
77	004D	Group A, lo >> high-set E/F	F18	Unit 0.01A
78	004E	Group B, lo >> high-set E/F	F18	Unit 0.01A
79	004F	Group A, to >>	F15	Unit 0.01s
80	0050	Group B, to >>	F15	Unit 0.01s
81 - 255	0051 – 00FF	Reserved*		
Read/Write		Soft-switch Setting	Functions 3, 4, or 6**	
256	0100	Soft-switch 1	F21	
257	0101	Soft-switch 2	F21	
258	0102	Soft-switch 3	F21	
259	0103	Soft-switch 4	F21	
260	0104	Soft-switch 5	F21	
261	0105	Soft-switch 6	F22	
262	0106	Soft-switch 7	F22	
263	0107	Soft-switch 8	F23	
264	0108	Soft-switch 9	F23	
265	0109	Soft-switch A	F24	
266	010A	Soft-switch B	F25	
267	010B	Soft-switch C	F26	
268	010C	Soft-switch D	F27	
269	010D	Soft-switch E		Always read as 0. Cannot be written.
270	010E	Soft-switch F	F30	
Read only		Fault Record	Functions 3 or 4	
4096	1000	L1 fault current	Record 1 (latest)	F40
4097	1001	L2 fault current		
4098	1002	L3 fault current		
4099	1003	L0 fault current		
4100	1004	Cause of fault		
4101	1005	L1 fault current	Record 2	F40
4102	1006	L2 fault current		
4103	1007	L3 fault current		
4104	1008	L0 fault current		
4105	1009	Cause of fault		
4106	100A	L1 fault current	Record 3	F40
4107	100B	L2 fault current		
4108	100C	L3 fault current		
4109	100D	L0 fault current		
4110	100E	Cause of fault		
4111	100F	L1 fault current	Record 4	F40
4112	1010	L2 fault current		

4113	1011	L3 fault current			
4114	1012	L0 fault current			
4115	1013	Cause of fault			
4116	1014	L1 fault current	Record 5	F40	
4117	1015	L2 fault current			
4118	1016	L3 fault current			
4119	1017	L0 fault current			
4120	1018	Cause of fault	F41		
4121	1019	L1 fault current	Record 6	F40	
4122	101A	L2 fault current			
4123	101B	L3 fault current			
4124	101C	L0 fault current			
4125	101D	Cause of fault			
4126	101E	L1 fault current	Record 7	F40	
4127	101F	L2 fault current			
4128	1020	L3 fault current			
4129	1021	L0 fault current			
4130	1022	Cause of fault			
4131	1023	L1 fault current	Record 8	F40	
4132	1024	L2 fault current			
4133	1025	L3 fault current			
4134	1026	L0 fault current			
4135	1027	Cause of fault			
4136	1028	L1 fault current	Record 9	F40	
4137	1029	L2 fault current			
4138	102A	L3 fault current			
4139	102B	L0 fault current			
4140	102C	Cause of fault			
Read only		Relay Status		F50	Function 7

*Note 1: Accessing the Reserved addresses will return an error.

**Note 2: Function is enabled by setting the corresponding soft-switch in MK2200.

Format	Type	Description
F10	Product info	ASCII characters
F11	Phase current or earth fault current	Unsigned integer from 0 to 65535. The value is expressed as 1/100A. e.g. 100 means 1.00A
F12	Contact output status	1xxx x000 0000 0000 = R1 ON x1xx x000 0000 0000 = R2 ON xx1x x000 0000 0000 = R3 ON xxx1 x000 0000 0000 = R4 ON xxxx 1000 0000 0000 = R5 ON
F13	Low-set phase overcurrent setting	Unsigned integer from 10 to 250. The value is expressed as 1/100A. The setting step is 1.
F14	Time multiplier setting	Unsigned integer from 2 to 100. 2 = TMS 0.02
F15	Delay time setting	Unsigned integer from 0 to 30000. The value is expressed as 1/100s i.e. 0.01s. The valid setting range: 0 to 999 step 1 1000 to 9990 step 10 10000 to 30000 step 100
F16	High-set phase overcurrent setting	Unsigned integer from 10 to 4000. The value is expressed as 1/100A. The valid setting range: 10 to 995 step 5 1000 to 4000 step 10
F17	Low-set earth fault setting	Unsigned integer from 5 to 100. The value is expressed as 1/100A. The setting step is 1.
F18	High-set earth fault setting	Unsigned integer from 5 to 1000. The value is expressed as 1/100A. The setting step is 5
F21	Soft switches 1 - 5 settings	When reading, the higher byte of this 2-byte value always read as zero (0). The lower byte can have value from 0 to 255. When writing, the higher byte value is ignored.
F22	Soft switches 6 - 7 settings	When reading, the higher byte of this 2-byte value always read as zero (0). When writing, the higher byte value is ignored. The lower byte can have value from 0 to 31.

F23	Soft switches 8 -9 settings	When reading, the higher byte of this 2-byte value always read as zero (0). When writing, the higher byte value is ignored. Both the upper & lower nibbles of the lower byte can have value from 1 to 5.
F24	Soft switch A setting	When reading, the higher byte of this 2-byte value always read as zero (0). When writing, the higher byte value is ignored. The valid hexadecimal values are: 0 to 0x10, 0x20, 0x40, and 0x80.
F25	Soft switch B setting	When reading, the higher byte of this 2-byte value always read as zero (0). When writing, the higher byte value is ignored. The valid values for the upper nibble of the lower byte are: 1 to 4. The valid values for the lower nibble of the lower byte are: 1 to 7.
F26	Soft switch C setting	When reading, the higher byte of this 2-byte value always read as zero (0). When writing, the higher byte value is ignored. This is the Modbus unit address with valid setting from 1 to 127.
F27	Soft switch D setting	When reading, the higher byte of this 2-byte value always read as zero (0). When writing, the higher byte value is ignored. This switch is to enable or disable remote programming by host. The valid setting is either 1 or 0.
F30	Soft switch F setting	When reading, the higher byte of this 2-byte value always read as zero (0). When writing, the higher byte value is ignored. The valid setting is either 1 or 0.

F40	Fault record	<p>This record consists of 4 fields. Each field consists of 2 bytes in the following format. If the cause of fault is due to external digital input, all the fault current will be read as zero (0).</p> <table border="1" data-bbox="743 454 1361 611"> <tr> <td>L1 fault current</td> <td>Unsigned integer</td> </tr> <tr> <td>L2 fault current</td> <td>Unsigned integer</td> </tr> <tr> <td>L3 fault current</td> <td>Unsigned integer</td> </tr> <tr> <td>L0 fault current</td> <td>Unsigned integer</td> </tr> </table>	L1 fault current	Unsigned integer	L2 fault current	Unsigned integer	L3 fault current	Unsigned integer	L0 fault current	Unsigned integer												
L1 fault current	Unsigned integer																					
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F41	Fault record	<p>This field indicates the nature of tripping for the corresponding fault record.</p> <table border="1" data-bbox="743 734 1361 1126"> <tr> <td>Nature of tripping</td> <td>Unsigned integer</td> </tr> <tr> <td>L1 low-set overcurrent</td> <td>1</td> </tr> <tr> <td>L2 low-set overcurrent</td> <td>2</td> </tr> <tr> <td>L3 low-set overcurrent</td> <td>3</td> </tr> <tr> <td>L1 high-set overcurrent</td> <td>4</td> </tr> <tr> <td>L2 high-set overcurrent</td> <td>5</td> </tr> <tr> <td>L3 high-set overcurrent</td> <td>6</td> </tr> <tr> <td>L0 low-set earth fault</td> <td>7</td> </tr> <tr> <td>L0 high-set earth fault</td> <td>8</td> </tr> <tr> <td>External digital input</td> <td>9</td> </tr> </table>	Nature of tripping	Unsigned integer	L1 low-set overcurrent	1	L2 low-set overcurrent	2	L3 low-set overcurrent	3	L1 high-set overcurrent	4	L2 high-set overcurrent	5	L3 high-set overcurrent	6	L0 low-set earth fault	7	L0 high-set earth fault	8	External digital input	9
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L2 low-set overcurrent	2																					
L3 low-set overcurrent	3																					
L1 high-set overcurrent	4																					
L2 high-set overcurrent	5																					
L3 high-set overcurrent	6																					
L0 low-set earth fault	7																					
L0 high-set earth fault	8																					
External digital input	9																					
F50	Status of relay	<table border="1" data-bbox="743 1216 1361 1529"> <tr> <td>Bit 7</td> <td>Relay trip status. Trip = 1</td> </tr> <tr> <td>Bit 6</td> <td>Relay start status. Start = 1</td> </tr> <tr> <td>Bit 5</td> <td>Not used</td> </tr> <tr> <td>Bit 4</td> <td>Not used</td> </tr> <tr> <td>Bit 3</td> <td>Not used</td> </tr> <tr> <td>Bit 2</td> <td>Not used</td> </tr> <tr> <td>Bit 1</td> <td>IRF. Relay failed = 1</td> </tr> <tr> <td>Bit 0</td> <td>Digital input status. Input closed = 1</td> </tr> </table>	Bit 7	Relay trip status. Trip = 1	Bit 6	Relay start status. Start = 1	Bit 5	Not used	Bit 4	Not used	Bit 3	Not used	Bit 2	Not used	Bit 1	IRF. Relay failed = 1	Bit 0	Digital input status. Input closed = 1				
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Bit 0	Digital input status. Input closed = 1																					
F60	Serial number	Unsigned integer. 0 and 0xFFFF (65535) are not valid serial numbers.																				