



Modbus Register Map: Easy UPS 3-Phase Modular

50-250 kW UPS

990-100009C-001

- Notes:
- 1. 16-bit registers are transmitted MSB first (i.e. big-endian).
 - 2. INT32 and UINT32 are most-significant word in n+0, least significant word in n+1 (i.e. big-endian).
 - 3. Function codes 3 and 4 are supported
 - 4. Modbus serial RTU and Modbus over TCP is supported.
 - 5. Signed numbers are twos-compliment
 - 6. Status bits are atomic within a single Modbus register. User should not look for consistency across multiple registers, only within a single register.
 - 7. For ASCII strings less than the maximum length, the unused characters are filled with nulls.
 - 8. Single-register reads of reserved or undefined registers will return an error. Block reads which begin with a valid register will not return an error but will return zeros for undefined registers.
 - 9. Strings are two characters per register, first character in high-order byte, second character in low-order byte. Printable ASCII only.
 - 10. Bit #0 is least significant bit.
 - 11. Data Type column: "INT16"=signed 16-bit integer, "UINT16" = unsigned 16-bit integer, "INT32" = signed 32-bit integer, "UINT32" = unsigned 32-bit integer, "ENUM" is a UINT16 value which maps to a defined list of states, "ASCII" = the printable ASCII subset from 0x20 - 0x7E. BOOLEAN= a single bit, 0 or 1.
 - 12. "Absolute Starting Register Address" = 0 (the column heading used in this table) is equivalent to "Register 40001" in Modicon terminology, which is address zero when transmitted over the wire.

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Multiply Reading By:	Divide Reading By:	NMC Modbus TCP	User Modbus RTU	Valid Response
Status Data											
40002	0x0001	1		UPS status	1				X	X	
			0	UPS operation mode - Battery		BOOLEAN					1=Load is being powered from battery
			1	Battery is below minimum acceptable runtime		BOOLEAN					1=Battery is below minimum acceptable runtime
			2	Bypass		BOOLEAN					1=System is in Bypass
			3	UPS operation mode - Battery test		BOOLEAN					1=Self-test in progress
			4	Reserved		BOOLEAN					
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Battery inoperable		BOOLEAN					1=Battery inoperable
			10	Reserved		BOOLEAN					
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Information alarm present		BOOLEAN					1=Information alarm present
			14	Warning alarm present		BOOLEAN					1=Warning alarm present
			15	Critical alarm present		BOOLEAN					1=Critical alarm present
Alarm											
40003	0x0002	2		Bypass	1				X	X	
			0	Bypass voltage out of tolerance		BOOLEAN					1=Bypass voltage is out of tolerance and UPS is prevented from going into requested bypass mode
			1	Bypass phase sequence incorrect		BOOLEAN					1=The phase rotation on bypass is incorrect
			2	Bypass frequency out of tolerance		BOOLEAN					1=Bypass frequency is out of tolerance
			3	Bypass phase missing		BOOLEAN					1=Bypass is missing a phase
			4	Reserved		BOOLEAN					Reserved
			5	Reserved		BOOLEAN					Reserved
			6	Reserved		BOOLEAN					Reserved
			7	Reserved		BOOLEAN					Reserved
			8	Reserved		BOOLEAN					Reserved
			9	Reserved		BOOLEAN					Reserved
			10	Reserved		BOOLEAN					Reserved
			11	Reserved		BOOLEAN					Reserved
			12	Reserved		BOOLEAN					Reserved
			13	Reserved		BOOLEAN					Reserved
			14	Reserved		BOOLEAN					Reserved
			15	Reserved		BOOLEAN					Reserved

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							Multiply Reading By:	Divide Reading By:			
40004	0x0003	3		Energy storage	1				X	X	
			0	Battery breaker BB1 open		BOOLEAN					1=Battery breaker BB1 open
			1	Battery breaker BB2 open		BOOLEAN					1=Battery breaker BB2 open
			2	Battery breaker BB3 open		BOOLEAN					1=Battery breaker BB3 open
			3	Battery breaker BB4 open		BOOLEAN					1=Battery breaker BB4 open
			4	Batteries are discharging		BOOLEAN					1=Batteries are discharging
			5	Charger shutdown due to high battery temperature		BOOLEAN					1=Charger shutdown due to high battery temperature
			6	Battery is below minimum acceptable runtime		BOOLEAN					1=Battery is below minimum acceptable runtime
			7	Battery voltage does not match battery configuration		BOOLEAN					1=Battery voltage does not match battery configuration
			8	Battery condition is weak		BOOLEAN					1=Battery condition is weak
			9	Battery condition is poor		BOOLEAN					1=Battery condition is poor
			10	High battery temperature level		BOOLEAN					1=High battery temperature level
			11	Low battery temperature level		BOOLEAN					1=Low battery temperature level
			12	Battery capacity is below minimum acceptable level		BOOLEAN					1=Battery capacity is below minimum acceptable level
			13	Battery charge power is reduced		BOOLEAN					1=Battery charge power is reduced
			14	Battery is not working correctly		BOOLEAN					1=Battery is not working correctly
			15	Battery float charge current exceeds expected value		BOOLEAN					1=Battery float charge current exceeds expected value
40005	0x0004	4		Energy storage	1				X	X	
			0	High battery temperature shutdown		BOOLEAN					1=High battery temperature shutdown
			1	Battery configuration is incorrect		BOOLEAN					1=Battery configuration is incorrect
			2	Charger shutdown due to low battery temperature		BOOLEAN					1=Charger shutdown due to low battery temperature
			3	Reserved		BOOLEAN					
			4	Reserved		BOOLEAN					
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Reserved		BOOLEAN					
			10	Reserved		BOOLEAN					
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
40006	0x0005	5		General	1				X	X	
			0	EPO switch activated		BOOLEAN					1=EPO switch activated
			1	Synchronization unavailable - System is free running		BOOLEAN					1=Synchronization unavailable - system is free running
			2	Inverter output is not in phase with bypass input		BOOLEAN					1=Inverter output is not in phase with bypass input
			3	UPS operation mode - Battery		BOOLEAN					1=UPS operation mode - Battery
			4	UPS operation mode - Requested static bypass		BOOLEAN					1=UPS operation mode - Requested static bypass
			5	UPS operation mode - Forced static bypass		BOOLEAN					1=UPS operation mode - Forced static bypass
			6	UPS operation mode - Maintenance bypass		BOOLEAN					1=UPS operation mode - Maintenance bypass
			7	UPS operation mode - Battery test		BOOLEAN					1=UPS operation mode - Battery test
			8	UPS operation mode - Off		BOOLEAN					1=UPS operation mode - Off
			9	UPS operation mode - Initialization		BOOLEAN					1=UPS operation mode - Initialization
			10	UPS operation mode - Static bypass standby		BOOLEAN					1=UPS operation mode - Static bypass standby
			11	UPS operation mode - Inverter standby		BOOLEAN					1=UPS operation mode - Inverter standby
			12	Reserved		BOOLEAN					1=System operation mode - Off
			13	Reserved		BOOLEAN					1=System operation mode - Forced static bypass
			14	Reserved		BOOLEAN					1=System operation mode - Requested static bypass
			15	Reserved		BOOLEAN					1=System operation mode - Maintenance bypass

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							Multiply Reading By:	Divide Reading By:			
40007	0x0006	6		General	1				X	X	
			0	System operation mode - Off		BOOLEAN					1=System operation mode - Static bypass standby
			1	System operation mode - Forced static bypass		BOOLEAN					1=Product not registered
			2	System operation mode - Requested static bypass		BOOLEAN					
			3	System operation mode - Maintenance bypass		BOOLEAN					
			4	System operation mode - Static bypass standby		BOOLEAN					
			5	System operation mode - ECO mode		BOOLEAN					
			6	Product not registered		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	System locked in bypass operation		BOOLEAN					1=System locked in bypass operation
			10	Reserved		BOOLEAN					
			11	Unsupported power module type detected		BOOLEAN					1=Unsupported power module type detected
			12	Unsupported static bypass switch module type detected		BOOLEAN					1=Unsupported static bypass switch module type detected
			13	Reserved		BOOLEAN					
			14	Configured UPS power rating exceeds frame power rating		BOOLEAN					1=Configured UPS power rating exceeds frame power rating
			15	Reserved		BOOLEAN					
40008	0x0007	7		General	1				X	X	
			0	Reserved		BOOLEAN					
			1	No SBS present		BOOLEAN					1=No SBS present
			2	No power module(s) present		BOOLEAN					1=No power module(s) present
			3	Reserved		BOOLEAN					
			4	Reserved		BOOLEAN					
			5	Ambient temperature out of tolerance		BOOLEAN					1=Ambient temperature out of tolerance
			6	Ambient temperature high		BOOLEAN					1=Ambient temperature high
			7	Inverter is off due to a request by the user		BOOLEAN					1=Inverter is off due to a request by the user
			8	Reserved		BOOLEAN					
			9	Warranty expiring soon		BOOLEAN					1=Warranty expiring soon
			10	Technical check recommended		BOOLEAN					1=Technical check recommended
			11	Air filter technical check recommended		BOOLEAN					1=Air filter technical check recommended
			12	Reserved		BOOLEAN					
			13	UPS surveillance detected fault		BOOLEAN					1=UPS surveillance detected fault
			14	Display communication lost - display is disconnected from the system		BOOLEAN					1=Display communication lost - display is disconnected from the system
			15	Reserved		BOOLEAN					
40009	0x0008	8		General	1				X	X	
			0	Display communication not authenticated		BOOLEAN					1=Display communication not authenticated
			1	Reserved		BOOLEAN					
			2	Reserved		BOOLEAN					
			3	Reserved		BOOLEAN					
			4	Incorrect UPS model number detected		BOOLEAN					1=Incorrect UPS model number detected
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Internal power module redundancy lost		BOOLEAN					1=Internal power module redundancy lost
			8	Reserved		BOOLEAN					
			9	Reserved		BOOLEAN					
			10	Power Module ID configuration not OK		BOOLEAN					1=Power Module ID configuration not OK
			11	DC-DC current limitation threshold lowered due to high temperature		BOOLEAN					1=DC-DC current limitation threshold lowered due to high temperature
			12	Reserved		BOOLEAN					
			13	PFC AC current limitation threshold lowered due to high temperature		BOOLEAN					1=PFC AC current limitation threshold lowered due to high temperature
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					

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							Multiply Reading By:	Divide Reading By:			
40010	0x0009	9		Reserved	1				X	X	
40011	0x000A	10		Reserved	1				X	X	
40012	0x000B	11		Input	1				X	X	
			0	Input voltage out of tolerance		BOOLEAN					1=Input voltage out of tolerance
			1	Input phase sequence incorrect		BOOLEAN					1=Input phase sequence incorrect
			2	Input frequency out of tolerance		BOOLEAN					1=Input frequency out of tolerance
			3	Input phase missing		BOOLEAN					1=Input phase missing
			4	Reserved		BOOLEAN					
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Neutral displacement detected		BOOLEAN					1=Neutral displacement detected
			10	Reserved		BOOLEAN					
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
40013	0x000C	12		Output	1				X	X	
			0	Output voltage out of tolerance		BOOLEAN					1=Output voltage out of tolerance
			1	Output frequency out of tolerance		BOOLEAN					1=Output frequency out of tolerance
			2	Overload or short-circuit on UPS		BOOLEAN					1=Overload or short-circuit on UPS
			3	Overload on UPS due to high ambient temperature		BOOLEAN					1=Overload on UPS due to high ambient temperature
			4	Reserved		BOOLEAN					
			5	Load on UPS is above warning level		BOOLEAN					1=Load on UPS is above warning level
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Reserved		BOOLEAN					
			10	Reserved		BOOLEAN					
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
40014	0x000D	13		Parallel system	1				X	X	
40015	0x000E	14		Power module	1				X	X	
			0	Power module inoperable		BOOLEAN					1=Power module inoperable
			1	Power module temperature warning		BOOLEAN					1=Power module temperature warning
			2	Power module overheated		BOOLEAN					1=Power module overheated
			3	Reserved		BOOLEAN					
			4	Reserved		BOOLEAN					
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Power module fan inoperable		BOOLEAN					1=Power module fan inoperable
			8	Power module disabled		BOOLEAN					1=Power module disabled
			9	Power module surveillance detected fault		BOOLEAN					1=Power module surveillance detected fault
			10	PMC communication lost - disconnected		BOOLEAN					1=PMC communication lost - disconnected
			11	PMC communication lost - connected		BOOLEAN					1=PMC communication lost - connected
			12	PMC communication not authenticated		BOOLEAN					1=PMC communication not authenticated
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
40016	0x000F	15		Reserved	1				X	X	

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							Multiply Reading By:	Divide Reading By:			
40017	0x0010	16		Static bypass switch	1				X	X	
			0	Static bypass switch fan inoperable		BOOLEAN					1=Static bypass switch fan inoperable
			1	Reserved		BOOLEAN					
			2	Reserved		BOOLEAN					
			3	Static bypass switch inoperable		BOOLEAN					1=Static bypass switch inoperable
			4	Static bypass switch controller communication lost - disconnected		BOOLEAN					1=Static bypass switch controller communication lost - disconnected
			5	Static bypass switch controller communication lost - connected		BOOLEAN					1=Static bypass switch controller communication lost - connected
			6	Static bypass switch controller communication not authenticated		BOOLEAN					1=Static bypass switch controller communication not authenticated
			7	Static bypass switch module disabled		BOOLEAN					1=Static bypass switch module disabled
			8	Reserved		BOOLEAN					
			9	Reserved		BOOLEAN					
			10	Reserved		BOOLEAN					
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
40018	0x0011	17		Switchgear	1				X	X	
			0	Breaker UIB open		BOOLEAN					1=Breaker UIB open
			1	Breaker UOB open		BOOLEAN					1=Breaker UOB open
			2	Breaker MBB closed		BOOLEAN					1=Breaker MBB closed
			3	Breaker SIB open		BOOLEAN					1=Breaker SIB open
			4	Breaker SSIB open		BOOLEAN					1=Breaker SSIB open
			5	Breaker IMB closed		BOOLEAN					1=Breaker IMB closed
			6	Breaker RIMB closed		BOOLEAN					1=Breaker RIMB closed
			7	Ext. MBB closed		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Ground fault detected		BOOLEAN					1=Ground fault detected
			10	Genset is supplying the UPS		BOOLEAN					1=Genset is supplying the UPS
			11	Battery room ventilation inoperable		BOOLEAN					1=Battery room ventilation inoperable
			12	External battery monitoring detected fault		BOOLEAN					1=External battery monitoring detected fault
			13	UOB redundant monitoring not working correctly		BOOLEAN					1=UOB redundant monitoring not working correctly
			14	MBB redundant monitoring not working correctly		BOOLEAN					1=MBB redundant monitoring not working correctly
			15	Reserved		BOOLEAN					
40019	0x0012	18		Switchgear	1				X	X	
			0	Reserved		BOOLEAN					
			1	UPS locked in static bypass mode: activated		BOOLEAN					1=UPS locked in static bypass mode: activated
			2	High efficiency mode disabled		BOOLEAN					1=High efficiency mode disabled
			3	External energy storage monitoring: minor alarm		BOOLEAN					1=External energy storage monitoring: minor alarm
			4	External energy storage monitoring: major alarm		BOOLEAN					1=External energy storage monitoring: major alarm
			5	External charger off command: activated		BOOLEAN					1=External charger off command: activated
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Reserved		BOOLEAN					
			10	Reserved		BOOLEAN					
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
40020	0x0013	19		SMC	1				X	X	
			0	Reserved		BOOLEAN					
			1	Reserved		BOOLEAN					
			2	Reserved		BOOLEAN					
			3	Reserved		BOOLEAN					
			4	Reserved		BOOLEAN					
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			x	Reserved		BOOLEAN					

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							Multiply Reading By:	Divide Reading By:			
40021	0x0014	20		IMC	1				X	X	
			0	IMC enabled switch disabled		BOOLEAN					1=IMC enabled switch disabled
			1	Reserved		BOOLEAN					
			2	Reserved		BOOLEAN					
			3	Reserved		BOOLEAN					
			4	Reserved		BOOLEAN					
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	IMC communication lost - disconnected		BOOLEAN					1=IMC communication lost - disconnected
			10	IMC communication lost - connected		BOOLEAN					1=IMC communication lost - connected
			11	IMC communication not authenticated		BOOLEAN					1=IMC communication not authenticated
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
40022	0x0015	21		Reserved	1				X	X	
40023	0x0016	22		Reserved	1				X	X	
40024	0x0017	23		Network	1				X	X	
			0	Reserved		BOOLEAN					
			1	Reserved		BOOLEAN					
			2	Reserved		BOOLEAN					
			3	Reserved		BOOLEAN					
			4	Reserved		BOOLEAN					
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Communication link between NMC and SMC is lost. NMC is disconnected from the system		BOOLEAN					1=Communication link between NMC and SMC is lost. NMC is disconnected from the system
			10	Communication link between NMC and SMC is lost. NMC is connected to the system		BOOLEAN					1=Communication link between NMC and SMC is lost. NMC is connected to the system
			11	Communication between NMC and SMC is not authenticated		BOOLEAN					1=Communication between NMC and SMC is not authenticated
			12	NMC firmware incompatible		BOOLEAN					1=NMC firmware incompatible
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
Static Data											
41281	0x500	1280		UPS Model Name	10	ASCII			X	X	
41291	0x50A	1290		UPS Serial Number	8	ASCII			X	X	
41299	0x512	1298		UPS Firmware Version	12	ASCII			X	X	
41311	0x51E	1310		UPS Hardware Version	8	ASCII			X	X	
41319	0x526	1318		NMC 1 Model Name	8	ASCII			X	X	
41327	0x52E	1326		NMC 1 Serial Number	16	ASCII			X	X	
41343	0x53E	1342		NMC 1 Firmware Version	16	ASCII			X	X	
41359	0x54E	1358		NMC 1 Hardware Version	8	ASCII			X	X	
41367	0x556	1366		NMC 2 Model Name	8	ASCII			X	X	
41375	0x55E	1374		NMC 2 Serial Number	16	ASCII			X	X	
41391	0x56E	1390		NMC 2 Firmware Version	16	ASCII			X	X	
41407	0x57E	1406		NMC 2 Hardware Version	8	ASCII			X	X	
41415	0x586	1414		HMI Model Name	8	ASCII			X	X	Option
41423	0x58E	1422		HMI Serial Number	8	ASCII			X	X	Option
41431	0x596	1430		HMI Firmware Version	12	ASCII			X	X	Option
41443	0x5A2	1442		HMI Hardware Version	8	ASCII			X	X	Option

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							Multiply Reading By:	Divide Reading By:			
Dynamic Data											
Input											
44097	0x1000	4096		Frequency (input)	1	UINT16	0.1	10	X	X	Hz
44098	0x1001	4097		Voltage L1 - N	1	UINT16	1	1	X	X	Vrms
44099	0x1002	4098		Voltage L2 - N	1	UINT16	1	1	X	X	Vrms
44100	0x1003	4099		Voltage L3 - N	1	UINT16	1	1	X	X	Vrms
44101	0x1004	4100		Voltage L1-2 (input)	1	UINT16	1	1	X	X	Vrms
44102	0x1005	4101		Voltage L2-3 (input)	1	UINT16	1	1	X	X	Vrms
44103	0x1006	4102		Voltage L3-1 (input)	1	UINT16	1	1	X	X	Vrms
44104	0x1007	4103		Current L1 (input)	1	UINT16	1	1	X	X	amps
44105	0x1008	4104		Current L2 (input)	1	UINT16	1	1	X	X	amps
44106	0x1009	4105		Current L3 (input)	1	UINT16	1	1	X	X	amps
44107	0x100A	4106		Active power L1 (input)	1	UINT16	1	1	X	X	kW
44108	0x100B	4107		Active power L2 (input)	1	UINT16	1	1	X	X	kW
44109	0x100C	4108		Active power L3 (input)	1	UINT16	1	1	X	X	kW
44110	0x100D	4109		Apparent power L1 (input)	1	UINT16	1	1	X	X	kVA
44111	0x100E	4110		Apparent power L2 (input)	1	UINT16	1	1	X	X	kVA
44112	0x100F	4111		Apparent power L3 (input)	1	UINT16	1	1	X	X	kVA
44113	0x1010	4112		Power factor L1	1	UINT16	0.01	100	X	X	
44114	0x1011	4113		Power factor L2	1	UINT16	0.01	100	X	X	
44115	0x1012	4114		Power factor L3	1	UINT16	0.01	100	X	X	
44116	0x1013	4115		Total active power (input)	1	UINT16	1	1	X	X	kW
44117	0x1014	4116		Total apparent power (input)	1	UINT16	1	1	X	X	kVA
Bypass											
44353	0x1100	4352		Frequency (bypass)	1	UINT16	0.1	10	X	X	Hz
44354	0x1101	4353		Voltage L1-N (bypass)	1	UINT16	1	1	X	X	Vrms
44355	0x1102	4354		Voltage L2-N (bypass)	1	UINT16	1	1	X	X	Vrms
44356	0x1103	4355		Voltage L3-N (bypass)	1	UINT16	1	1	X	X	Vrms
44357	0x1104	4356		Voltage L1-2 (bypass)	1	UINT16	1	1	X	X	Vrms
44358	0x1105	4357		Voltage L2-3 (bypass)	1	UINT16	1	1	X	X	Vrms
44359	0x1106	4358		Voltage L3-1 (bypass)	1	UINT16	1	1	X	X	Vrms
44360	0x1107	4359		Current L1 (bypass)	1	UINT16	1	1	X	X	amps
44361	0x1108	4360		Current L2 (bypass)	1	UINT16	1	1	X	X	amps
44362	0x1109	4361		Current L3 (bypass)	1	UINT16	1	1	X	X	amps
44363	0x110A	4362		Active power L1 (bypass)	1	UINT16	1	1	X	X	kW
44364	0x110B	4363		Active power L2 (bypass)	1	UINT16	1	1	X	X	kW
44365	0x110C	4364		Active power L3 (bypass)	1	UINT16	1	1	X	X	kW
44366	0x110D	4365		Apparent power L1 (bypass)	1	UINT16	1	1	X	X	kVA
44367	0x110E	4366		Apparent power L2 (bypass)	1	UINT16	1	1	X	X	kVA
44368	0x110F	4367		Apparent power L3 (bypass)	1	UINT16	1	1	X	X	kVA
44369	0x1110	4368		Power factor L1	1	UINT16	0.01	100	X	X	
44370	0x1111	4369		Power factor L2	1	UINT16	0.01	100	X	X	
44371	0x1112	4370		Power factor L3	1	UINT16	0.01	100	X	X	
44372	0x1113	4371		Total active power (bypass)	1	UINT16	1	1	X	X	kW
44373	0x1114	4372		Total apparent power (bypass)	1	UINT16	1	1	X	X	kVA

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							Multiply Reading By:	Divide Reading By:			
Output											
44609	0x1200	4608		Frequency	1	UINT16	0.1	10	X	X	Hz
44610	0x1201	4609		Voltage L1-N	1	UINT16	1	1	X	X	Vrms
44611	0x1202	4610		Voltage L2-N	1	UINT16	1	1	X	X	Vrms
44612	0x1203	4611		Voltage L3-N	1	UINT16	1	1	X	X	Vrms
44613	0x1204	4612		Voltage L1-2	1	UINT16	1	1	X	X	Vrms
44614	0x1205	4613		Voltage L2-3	1	UINT16	1	1	X	X	Vrms
44615	0x1206	4614		Voltage L3-1	1	UINT16	1	1	X	X	Vrms
44616	0x1207	4615		Current L1	1	UINT16	1	1	X	X	amps
44617	0x1208	4616		Current L2	1	UINT16	1	1	X	X	amps
44618	0x1209	4617		Current L3	1	UINT16	1	1	X	X	amps
44619	0x120A	4618		Active power L1	1	UINT16	1	1	X	X	kW
44620	0x120B	4619		Active power L2	1	UINT16	1	1	X	X	kW
44621	0x120C	4620		Active power L3	1	UINT16	1	1	X	X	kW
44622	0x120D	4621		Apparent power L1	1	UINT16	1	1	X	X	kVA
44623	0x120E	4622		Apparent power L2	1	UINT16	1	1	X	X	kVA
44624	0x120F	4623		Apparent power L3	1	UINT16	1	1	X	X	kVA
44625	0x1210	4624		Apparent poewer L1 percentage	1	UINT16	0.1	10	X	X	%
44626	0x1211	4625		Apparent poewer L2 percentage	1	UINT16	0.1	10	X	X	%
44627	0x1212	4626		Apparent poewer L3 percentage	1	UINT16	0.1	10	X	X	%
44628	0x1213	4627		Total active power	1	UINT16	1	1	X	X	kW
44629	0x1214	4628		Power factor L1	1	UINT16	0.01	100	X	X	power factor
44630	0x1215	4629		Power factor L2	1	UINT16	0.01	100	X	X	power factor
44631	0x1216	4630		Power factor L3	1	UINT16	0.01	100	X	X	power factor
44632	0x1217	4631		Total apparent power	1	UINT16	1	1	X	X	kVA
											%
44633	0x1218	4632		Total load percentage	1	UINT16	0.1	10	X	X	
Battery											
44865	0x1300	4864		The highest battery temperature from the connected temperature sensors	1	UINT16	0.1	10	X	X	°C
44866	0x1301	4865		The present battery voltage (V)	1	UINT16	1	1	X	X	V
44867	0x1302	4866		The present battery current (A). A positive current indicates that the battery is charging; a negative current indicates that the battery is discharging.	2	INT32	1	1	X	X	A
44869	0x1304	4868		The present DC power being drawn from the battery in kW	1	UINT16	1	1	X	X	kW
44870	0x1305	4869		Estimated time for recharging the battery	2	UINT32	1	1	X	X	s
44872	0x1307	4871		The present battery charge, as a percentage of full charge capacity	1	UINT16	1	1	X	X	%
44873	0x1308	4872		The amount of time before the batteries reach the low-voltage shutdown level	2	UINT32	1	1	X	X	s
44875	0x130A	4874		The operation mode of the charger	1	ENUM				X	Only available on User Modbus RTU. 0=Charging 1=Discharging 2=Resting
44876	0x130B	4875		The general condition of the charger	1				X	X	
			0	Float Charge							1=FLOAT charge
			1	Boost Charge							1=BOOST charge
			4	OFF							1=OFF
			x	Reserved							
44877	0x130C	4876		Combined status of battery breakers	1	ENUM			X	X	0=open 1=closed
44878	0x130D	4877		Reserved	1				X	X	

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							Multiply Reading By:	Divide Reading By:			
44879	0x130E	4878		Status of battery self-test. Can indicate the battery test status triggered by user-commanded or scheduled self-test	1				X	X	
			0	Test is pending		BOOLEAN					Battery self-test inactive
			1	Test in progress		BOOLEAN					Battery self-test is running
			2	Test complete		BOOLEAN					Self-Test is completed
			3	Test failed		BOOLEAN					Self-test is failed
			4	Test was refused		BOOLEAN					Self-test is aborted due to user command
			5	Test was aborted		BOOLEAN					Self-test is aborted due to system critical alarm
			6	source modifier		BOOLEAN					Battery self-test state unknown
			x	Reserved		BOOLEAN					
44880	0x130F	4879		Reserved	1				X	X	
44881	0x1310	4880		Status indicates the battery health state result from battery test	1	ENUM			X	X	0=Unknown 1=BatteryOk 2=BatteryCapacityReduced 3=BatteryDefect 4=Not defined -127= Not defined
44882	0x1311	4881		Measurement of the total available battery capacity in Ah for the UPS	1	UINT16	1	1	X	X	Ah
44883	0x1312	4882		Reserved	1	UINT32	1	1	X	X	
44884	0x1313	4883		Reserved	1	UINT32	1	1	X	X	
System											
45377	0x1500	5376		Ambient temperature	1	UINT16	0.1	10	X	X	°C
45378	0x1501	5377		General Switch gear status	1				X	X	Bit mask For each bit, 0 = open, 1 =closed
			0	UIB		BOOLEAN					1=Closed
			1	SSIB		BOOLEAN					1=Closed
			2	IMB		BOOLEAN					1=Closed
			3	UOB		BOOLEAN					1=Closed
			4	SIB		BOOLEAN					1=Closed
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Reserved		BOOLEAN					
			10	MBB		BOOLEAN					1=Closed
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		NMC Modbus TCP	User Modbus RTU	Valid Response
							Multiply Reading By:	Divide Reading By:			
45379	0x1502	5378		UPS mode operation mode of the UPS	2	ENUM			X	X	Initialize/Off Operation = 0x10 Self Test = 0x90 Battery Operation = 0x04 Normal Operation = 0x02 Request Static Bypass = 0x408 Forced Static Bypass = 0x28 Maintenance Bypass = 0x808 ECO Mode = 0x2008 Hot Standby = Reserved Inverter Standby = Reserved Static Bypass Standby = Reserved Battery Test = 0x84 Inverter Spot = 0x82
45381	0x1504	5380		System operation mode	1	ENUM			X	X	
			0	Reserved		BOOLEAN					
			1	System: inverter on		BOOLEAN					System is in inverter operation
			2	requested static bypass		BOOLEAN					System is in requested static bypass operation
			3	Force static bypass		BOOLEAN					System is in forced static bypass operation
			4	Initialize/off		BOOLEAN					System is in off operation
			5	Inverter SPOT		BOOLEAN					System is in Inverter SPOT operation
			6	Maintenance Bypass		BOOLEAN					System is in maintenance bypass operation
			7	ECO Mode		BOOLEAN					System is in ECO bypass operation
			8	eConversion(AdvEcoMode)		BOOLEAN					System is in ECO nversion operation
			9	Static Bypass Standby		BOOLEAN					System is in static bypass standby operation
			10	Reserved		BOOLEAN					
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					
45382	0x1505	5381		Power module present status	1	UINT16			X	X	
			0	PM 1 present		BOOLEAN					1=PM1 present
			1	PM 2 present		BOOLEAN					1=PM2 present
			2	PM 3 present		BOOLEAN					1=PM3 present
			3	PM 4 present		BOOLEAN					1=PM4 present
			4	PM 5 present		BOOLEAN					1=PM5 present
			5	PM 6 present		BOOLEAN					1=PM6 present
			x	Reserved		BOOLEAN					
45383	0x1506	5382		External breaker status	1	UINT16			X	X	
			0	Reserved		BOOLEAN					
			1	Reserved		BOOLEAN					
			2	Reserved		BOOLEAN					
			3	Reserved		BOOLEAN					
			4	Reserved		BOOLEAN					
			5	Reserved		BOOLEAN					
			6	Reserved		BOOLEAN					
			7	Reserved		BOOLEAN					
			8	Reserved		BOOLEAN					
			9	Reserved		BOOLEAN					
			10	Ext. MBB		BOOLEAN					1=Closed
			11	Reserved		BOOLEAN					
			12	Reserved		BOOLEAN					
			13	Reserved		BOOLEAN					
			14	Reserved		BOOLEAN					
			15	Reserved		BOOLEAN					

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							Multiply Reading By:	Divide Reading By:			
NMC											
46401	0x1900	6400		NMC 1 Probe 1 temperature measured by sensor	1	UINT16	0.1	10	X		°C Only available from NMC.
46402	0x1901	6401		NMC 1 probe 1 humidity measured by sensor	1	UINT16	0.1	10	X		% RH Only available from NMC.
46403	0x1902	6402		NMC 1 probe 2 temperature measured by sensor	1	UINT16	0.1	10	X		°C Only available from NMC.
46404	0x1903	6403		NMC 1 probe 2 humidity measured by sensor	1	UINT16	0.1	10	X		% RH Only available from NMC.
46405	0x1904	6404		NMC 2 probe 1 temperature measured by sensor	1	UINT16	0.1	10	X		°C Only available from NMC.
46406	0x1905	6405		NMC 2 probe 1 humidity measured by sensor	1	UINT16	0.1	10	X		% RH Only available from NMC.
46407	0x1906	6406		NMC 2 probe 2 temperature measured by sensor	1	UINT16	0.1	10	X		°C Only available from NMC.
46408	0x1907	6407		NMC 2 probe 2 humidity measured by sensor	1	UINT16	0.1	10	X		% RH Only available from NMC.
46409	0x1908	6408		Sensor type NMC 1 sensor 1	1	UINT16			x		0=unknown 1=temperature only 2=temperature and humidity 3=dry contactor 4=Not defined -32768 = Not defined
46410	0x1909	6409		Sensor type NMC 1 sensor 2	1	UINT16			x		0=unknown 1=temperature only 2=temperature and humidity 3=dry contactor 4=Not defined -32768 = Not defined
46411	0x190A	6410		Sensor type NMC 2 sensor 1	1	UINT16			x		0=unknown 1=temperature only 2=temperature and humidity 3=dry contactor 4=Not defined -32768 = Not defined
46412	0x190B	6411		Sensor type NMC 2 sensor 2	1	UINT16			x		0=unknown 1=temperature only 2=temperature and humidity 3=dry contactor 4=Not defined -32768 = Not defined
									x		-32768 = Not defined

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		NMC Modbus TCP	User Modbus RTU	Valid Response
							Multiply Reading By:	Divide Reading By:			
Configuration Data											
48193	0x2000	8192		Mains configuration settings	1	ENUM			X	X	
			0	Single input							1=single input
			1	Dual inputs							1=Dual inputs
			x								
48194	0x2001	8193		UPS voltage settings	1				X	X	
			0	Reserved							
			1	Reserved							
			2	Reserved							
			3	Reserved							
			4	Reserved							
			5	Voltage is 380VAC							
			6	Voltage is 400VAC							
			7	Voltage is 415VAC							
			x	Reserved							
48195	0x2002	8194		Output acceptable frequency settings	2	ENUM			X	X	Hz50_1 = 0x80 Hz50_3 = 0x100 Hz50_10 = 0x200 Hz60_1 = 0x400 Hz60_3 = 0x800 Hz60_10 = 0x1000
48197	0x2004	8196		Output system upper acceptable voltage setting percentage	1	UINT16	1	1	X	X	3~10, %.
48198	0x2005	8197		Switchgear system breaker present settings	1				X	X	
			0	UIB breaker present settings							1=UIB present
			1	SSIB breaker present settings							1=SSIB present
			2	Reserved							
			3	UOB breaker present settings							1=UOB present
			4	SIB breaker present settings							1=SIB present
			5	Reserved							
			6	Reserved							
			7	Reserved							
			8	Reserved							
			9	Reserved							
			10	Reserved							
			11	Reserved							
			12	Reserved							
			13	Reserved							
			14	Ext MBB breaker present settings							1=Ext MBB present
			15	Reserved							
48199	0x2006	8198		Date and time settings	2	UINT32	1	1	X	X	s. Time stamp seconds from 2000/01/01
48201	0x2008	8200		Out of sync bypass transfer delay settings	1	UINT16	1	1		X	ms.
48202	0x2009	8201		The UPS power rating	1	UINT16	1	1		X	Only available from user modbus RTU.
48203	0x200A	8202		Output overload threshold settings	1	UINT16	1	1	X	X	kVA
48204	0x200B	8203		Slew rate of the inverter	1	ENUM			X	X	%
			0	Slew rate is 0.25Hz		BOOLEAN					
			1	Slew rate is 0.5Hz		BOOLEAN					
			2	Slew rate is 1.0Hz		BOOLEAN					
			3	Slew rate is 2.0Hz		BOOLEAN					
			4	Slew rate is 4.0Hz		BOOLEAN					
			5	Slew rate is 6.0Hz		BOOLEAN					
			x	Reserved		BOOLEAN					
48205	0x200C	8204		Input ramp-in time setting in seconds	1	UINT16			X	X	s
48206	0x200D	8205		Reserved	1	UINT16	1	1		X	% In Wave 2 (Voltage compensation)
48207	0x200E	8206		Reserved	1	UINT16			X	X	

END OF MAP

							Scale				
Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Multiply Reading By:	Divide Reading By:	NMC Modbus TCP	User Modbus RTU	Valid Response
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