Schneider Electric

Modbus Register Map: Galaxy VS, Galaxy PX 10-100 kW

Notes:

990-6131C

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 code 3 is supported.

4. Modbus serial RTU and Modbus 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.

13. For register 4889, the multiplier has been modified from 0.01 to 0.1 and the divider has been changed from 100 to 10 when compared with earlier releases.

14. This Modbus register map is compatible with firmware version 6.55 and higher.

For detailed Modbus configuration settings, please refer to the display.

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
Status Data									
40002	0x0001	1		UPS status	1				
			0	UPS operation mode - Battery		BOOLEAN			1=UPS operation mode - Battery
			1	Battery is below minimum acceptable runtime		BOOLEAN			1=Battery is below minimum acceptable runtime
			2	Bypass		BOOLEAN			1=UPS is in bypass
			3	UPS operation mode - Battery test		BOOLEAN			1=UPS operation mode - Battery test
			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	Informational alarm present		BOOLEAN			1=Informational alarm present
			14	Warning alarm present		BOOLEAN			1=Warning alarm present
			15	Critical alarm present		BOOLEAN			1=Critical alarm present
Alarm Register									
40003	0x0002	2		Bypass	1				
			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			
			5	Reserved		BOOLEAN			
			6	Reserved		BOOLEAN			
			7	Reserved		BOOLEAN			
			8	Reserved		BOOLEAN			
			9	Reserved		BOOLEAN			
			10	Reserved		BOOLEAN			
			11	Reserved		BOOLEAN			
			12	Reserved		BOOLEAN			

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Scale Divide Reading By:	Valid Response
			13	Reserved		BOOLEAN			
			14	Reserved		BOOLEAN			
			15	Reserved		BOOLEAN			
40004	0x0003	3		Energy storage	1				
			0	Battery breaker BB1 open		BOOLEAN			1=Battery breaker BB1 is open
			1	Battery breaker BB2 open		BOOLEAN			1=Battery breaker BB2 is open
			2	Reserved		BOOLEAN			
			3	Reserved		BOOLEAN			
			4	Batteries are discharging		BOOLEAN			1=The load is drawing more power than the UPS can draw from the input, causing the UPS to draw power from the batteries
			5	Charger shutdown due to high battery temperature		BOOLEAN			1=The charger has been shut down due to a high battery temperature
			6	Battery is below minimum acceptable runtime		BOOLEAN			1=The battery runtime is below configured minimum acceptable value
			7	Battery voltage does not match battery configuration		BOOLEAN			1=Battery voltage does not match the battery configuration settings
			8	Battery condition is weak		BOOLEAN			1=Battery capacity is between 50% and 75%
			9	Battery condition is poor		BOOLEAN			1=Battery capacity is lower than 50%
			10	High battery temperature level		BOOLEAN			1=The battery temperature is above the alarm setting
			11	Low battery temperature level		BOOLEAN			1=The battery temperature is below the alarm setting
			12	Battery capacity is below minimum acceptable level		BOOLEAN			1=The battery capacity is below the minimum acceptable value according to UPS power rating. Risk of battery damage
			13	Battery charge power is reduced		BOOLEAN			1=The battery charge power has been reduced
			14	Battery is not working correctly		BOOLEAN			1=A battery is not working correctly
			15	Battery float charge current exceeds expected value		BOOLEAN			1=The battery float charge current exceeds the expected value and has been limited to avoid thermal runaway
40005	0x0004	4		Energy storage	1				
			0	High battery temperature shutdown		BOOLEAN			1=The energy storage surveillance has detected a battery temperature above shutdown limit
			1	Battery configuration is incorrect		BOOLEAN			1=The configuration of the settings for number of batteries in series, number of cells in battery and nominal cell voltage does not match the battery voltage range of the UPS
			2	Mixed battery brands on string level detected		BOOLEAN			1=The battery modules in the string are not of the same brand
			3	Reserved		BOOLEAN			
			4	Mixed battery module commercial references on system level detected		BOOLEAN			1=Mixed battery module commercial references on system level detected
			5	Modular battery breaker open		BOOLEAN			1=Modular battery breaker is open
			6	Incorrect battery monitor controller (BMC) configuration detected		BOOLEAN			1=Incorrect battery monitor controller (BMC) configuration detected
			7	Modular battery temperature out of tolerance		BOOLEAN			1=Modular battery temperature is out of tolerance
			8	Modular battery cabinet fuse blown		BOOLEAN			1=Modular battery cabinet fuse blown
			9	Incomplete battery string detected		BOOLEAN			1=Incomplete battery string detected
			10	Mixed battery solution detected		BOOLEAN			1=The UPS is configured for a classic battery solution but one or more battery modules are detected present
			11	Modular battery cabinet commercial reference unknown		BOOLEAN			1=Modular battery cabinet commercial reference is unknown
			12	Battery module type unknown		BOOLEAN			1=Battery module type is unknown
			13	Battery module temperature sensor not working correctly		BOOLEAN			1=Battery module temperature sensor is not working correctly
			14	Battery module temperature out of tolerance		BOOLEAN			1=Battery module temperature is out of tolerance
			15	Modular battery DC relay open		BOOLEAN			1=Modular battery DC relay open
40006	0x0005	5		General	1				
			0	EPO switch activated		BOOLEAN			1=An emergency power off (EPO) switch is activated

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale		Valid Response
							Multiply Reading By:	Divide Reading By:	
			1	Synchronization unavailable - system is free running		BOOLEAN			1=The UPS is unable to synchronize to the bypass input, external source or parallel system
			2	Inverter output is not in phase with bypass input		BOOLEAN			1=The UPS inverter output is not in phase with the bypass input
			3	UPS operation mode - Battery		BOOLEAN			1=On battery power in response to an input power unavailability or due to a transfer out of ECOnversion
			4	UPS operation mode - Requested static bypass		BOOLEAN			1=The UPS is in bypass in response to a user-initiated command, typically for maintenance
			5	UPS operation mode - Forced static bypass		BOOLEAN			1=The UPS is in forced static bypass
			6	UPS operation mode - Maintenance bypass		BOOLEAN			1=The UPS load is supplied through maintenance bypass breaker (MBB)
			7	UPS operation mode - Battery test		BOOLEAN			1=On battery power in response to a test of the performance of the batteries
			8	UPS operation mode - Off		BOOLEAN			1=The output power is turned off
			9	UPS operation mode - Initialization		BOOLEAN			1=The UPS is initializing
			10	UPS operation mode - Static bypass standby		BOOLEAN			1=The UPS is ready to enter static bypass but awaits permission from the system. UPS output is off
			11	UPS operation mode - Inverter standby		BOOLEAN			1=The UPS is ready to enter battery operation but awaits permission from the system. UPS output is off
			12	System operation mode - Off		BOOLEAN			1=The system output power is turned off
			13	System operation mode - Forced static bypass		BOOLEAN			1=The system is in bypass in response to a critical event or an inverter off request
			14	System operation mode - Requested static bypass		BOOLEAN			1=The UPS is in bypass in response to a user-initiated command, typically for maintenance
			15	System operation mode - Maintenance bypass		BOOLEAN			1=The system load is supplied through maintenance bypass breaker (MBB)
40007	0x0006	6		General	1				
			0	System operation mode - Static bypass standby		BOOLEAN			1=The system is in static bypass standby operation in response to a critical event or an inverter off request
			1	Product not registered		BOOLEAN			1=Your UPS is not registered
			2	Reserved		BOOLEAN			
			3	Reserved		BOOLEAN			
			4	Reserved		BOOLEAN			
			5	Activation code is not valid for UPS		BOOLEAN			1=The activation code is not valid for UPS
			6	Activation code missing		BOOLEAN			1=The activation code is missing
			7	RFID tag has changed		BOOLEAN			1=The RFID tag has changed
			8	Reserved		BOOLEAN			
			9	System locked in bypass operation		BOOLEAN			1=The system is locked in bypass operation
			10	Unsupported power frame type detected		BOOLEAN			1=The detected UPS power frame type is not supported by the current UPS power configuration
			11	Unsupported power module type detected		BOOLEAN			1=The detected power module type is not supported by the current UPS power configuration
			12	Unsupported static bypass switch module type detected		BOOLEAN			1=The detected static bypass switch module type is not supported by the current UPS power configuration
			13	Incorrect system voltage configuration detected		BOOLEAN			1=The configured UPS system voltage is not within the allowed range
			14	Configured UPS power rating exceeds frame power rating		BOOLEAN			1=The configured UPS power rating is larger than the power rating of the frame
			15	Reserved		BOOLEAN			
40008	0x0007	7		General	1				
			0	Incorrect 3-wire configuration detected		BOOLEAN			1=The UPS is not allowed to operate as a 3-wire system at the configured UPS system voltage
			1	No static bypass switch present		BOOLEAN			1=No static bypass switch detected present
			2	No power module(s) present		BOOLEAN			1=No power module(s) detected present
			3	Available UPS power lower than configured UPS power rating		BOOLEAN			1=The available UPS power from inverter is lower than the configured UPS power rating

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
			4	Static bypass switch power rating lower than configured UPS power rating		BOOLEAN			1=The static bypass switch power rating is lower than the configured UPS power rating. UPS power rating has been derated to match static bypass switch power rating
			5	Ambient temperature out of tolerance		BOOLEAN			1=The ambient temperature out of tolerance
			6	Ambient temperature high		BOOLEAN			1=Ambient temperature is high
			7	Inverter is off due to a request by the user		BOOLEAN			1=The inverter is off due to a request by the user
			8	Settings file not accepted		BOOLEAN			1=The settings file is not valid or not intended for this UPS
			9	Warranty expiring soon		BOOLEAN			1=The product is reaching the end of warranty
			10	Technical check recommended		BOOLEAN			1=The product and its batteries need to be checked as preventive maintenance is recommended
			11	Air filter technical check recommended		BOOLEAN			1=The air filters need to be checked as preventive maintenance is recommended
			12	Controller box disabled		BOOLEAN			1=Controller box has been disabled by user
			13	UPS surveillance detected fault		BOOLEAN			1=UPS surveillance detected a fault
			14	Display communication lost - display is disconnected from the system		BOOLEAN			1=Communication link between display and SLC is lost. Display is disconnected from the system
			15	Display communication lost but the display is connected to the system		BOOLEAN			1=Communication link between display and SLC is lost but the display is connected to the system
40009	0x0008	8		General	1				
			0	Display communication not authenticated		BOOLEAN			1=Communication link between display and SLC is not authenticated
			1	Multiple NTP server connections enabled		BOOLEAN			1=Multiple NTP server connections are enabled
			2	Reserved		BOOLEAN			
			3	Reserved		BOOLEAN			
			4	Incorrect UPS model number detected		BOOLEAN			1=The UPS model number does not match the UPS base model number
			5	Incorrect UPS base model number detected		BOOLEAN			1=The UPS base model number does not match the installed frame type, power module type, and/or SBS type
			6	Reserved		BOOLEAN			
			7	Internal power module redundancy lost		BOOLEAN			1=The configured internal power module redundancy is lost because there are not enough power modules available
			8	UPS output load is too low to allow ECOnversion		BOOLEAN			1=UPS output load is too low to allow ECOnversion
			9	Reserved		BOOLEAN			
			10	Reserved		BOOLEAN			
			11	Reserved		BOOLEAN			
			12	UPS output load power factor is too low to allow ECOnversion		BOOLEAN			1=UPS output load power factor is too low to allow ECOnversion
			13	Reserved		BOOLEAN			
			14	Reserved		BOOLEAN			
			15	Reserved		BOOLEAN			
40010	0x0009	9		RESERVED	1				
40011	0x000A	10		RESERVED	1				
40012	0x000B	11		Input	1				
			0	Input voltage out of tolerance		BOOLEAN			1=Input voltage is out of tolerance
			1	Input phase sequence incorrect		BOOLEAN			1=The phase rotation on input is incorrect
			2	Input frequency out of tolerance		BOOLEAN			1=Input frequency is out of tolerance
			3	Input phase missing		BOOLEAN			1=Input is missing a phase
			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	Bonding between neutral and ground missing		BOOLEAN			1=Bonding between neutral and ground is missing
			11	Reserved		BOOLEAN			

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
			12	Reserved		BOOLEAN			
			13	Reserved		BOOLEAN			
			14	Reserved		BOOLEAN			
			15	Reserved		BOOLEAN			
40013	0x000C	12		Output	1				
			0	Output voltage out of tolerance		BOOLEAN			1=The output voltage is out of tolerance
			1	Output frequency out of tolerance		BOOLEAN			1=The output frequency is out of tolerance
			2	Overload or short-circuit on UPS		BOOLEAN			1=The load exceeds 100% of rated capacity or there is a short-circuit on the output
			3	Overload on UPS due to high ambient temperature		BOOLEAN			1=The load exceeds the rated UPS capacity when running in high ambient temperature
			4	Reserved		BOOLEAN			
			5	Load on UPS is above warning level		BOOLEAN			1=Load on UPS has exceeded the 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				
			0	Parallel communication lost on PBUS cable 1		BOOLEAN			1=PBUS cable 1 may be damaged
			1	Parallel communication lost on PBUS cable 2		BOOLEAN			1=PBUS cable 2 may be damaged
			2	General parallel system event		BOOLEAN			1=The parallel system is not configured correctly or is not working correctly
			3	Parallel mixed operation mode		BOOLEAN			1=One or more parallel UPSs are operating in battery operation, while others are operating in normal operation
			4	Parallel unit not present		BOOLEAN			1=UPS is unable to communicate with one of the parallel UPSs. The UPS might have been powered down or PBUS cables may be damaged
			5	Parallel redundancy lost		BOOLEAN			1=The configured parallel redundancy is lost, either because the output load is too high, or because there are not enough parallel UPSs available.
			6	Not enough UPSs ready to turn on inverter		BOOLEAN			1=One or more parallel UPSs have been requested to turn on inverter, but not enough UPSs are ready for system to enter inverter on operation
			7	Firmware versions in parallel UPSs are not identical		BOOLEAN			1=The firmware versions in parallel UPSs are not identical
			8	Confirm redundancy lost and/or transfer to forced static bypass		BOOLEAN			1=Inverter OFF button has been pushed and user must confirm that the redundancy will be lost and/or system will transfer to forced static bypass
			9	IMB closed in parallel system with MBB		BOOLEAN			1=IMB has been closed in parallel system with MBB
			10	Parallel breaker status inconsistency detected		BOOLEAN			1=The status of one or more common parallel breakers is not detected to be the same on all parallel UPS
			11	Reserved		BOOLEAN			
			12	Reserved		BOOLEAN			
			13	Reserved		BOOLEAN			
			14	Reserved		BOOLEAN			
			15	Reserved		BOOLEAN			
40015	0x000E	14		Power module	1				
			0	Power module inoperable		BOOLEAN			1=Power module is inoperable
			1	Power module temperature warning		BOOLEAN			1=Power module temperature exceeds warning level
			2	Power module overheated		BOOLEAN			1=Power module temperature exceeds critical level
			3	Power module inlet temperature high		BOOLEAN			1=The power module inlet temperature is high

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale		Valid Response
							Multiply Reading By:	Divide Reading By:	
			4	Power module inlet temperature out of tolerance		BOOLEAN			1=The power module inlet temperature is out of tolerance
			5	Reserved		BOOLEAN			
			6	Reserved		BOOLEAN			
			7	Power module fan inoperable		BOOLEAN			1=The power module has one or more inoperable fans. Fan redundancy is lost
			8	Power module disabled		BOOLEAN			1=The power module has been disabled
			9	Power module surveillance detected fault		BOOLEAN			1=Power module surveillance detected a fault
			10	PMC communication lost - disconnected		BOOLEAN			1=Communication link between PMC and UC is lost. PMC is disconnected
			11	PMC communication lost - connected		BOOLEAN			1=Communication link between PMC and UC is lost. PMC is connected
			12	PMC communication not authenticated		BOOLEAN			1=Communication link between PMC and UC is not authenticated
			13	Reserved		BOOLEAN			
			14	Reserved		BOOLEAN			
			15	Reserved		BOOLEAN			
40016	0x000F	15		RESERVED	1				
40017	0x0010	16		Static bypass switch	1				
			0	Static bypass switch fan inoperable		BOOLEAN			1=Static bypass switch has one or more inoperable fans. Fan redundancy is lost
			1	Reserved		BOOLEAN			
			2	Static bypass switch warning		BOOLEAN			1=The static bypass switch needs a technical check but is still fully operational
			3	Static bypass switch inoperable		BOOLEAN			1=Static bypass switch is inoperable. UPS is prevented from going into static bypass operation
			4	Static bypass switch controller communication lost - disconnected		BOOLEAN			1=Communication link between static bypass switch controller and unit controller is lost. Static bypass switch controller is disconnected
			5	Static bypass switch controller communication lost - connected		BOOLEAN			1=Communication link between static bypass switch controller and unit controller is lost. Static bypass switch controller is connected
			6	Static bypass switch controller communication not authenticated		BOOLEAN			1=Communication link between static bypass switch controller and unit controller is not authenticated
			7	Static bypass switch module disabled		BOOLEAN			1=The static bypass switch module has been disabled by user
			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				
			0	Breaker UIB open		BOOLEAN			1=Unit input breaker UIB is open, and the UPS is prevented from running in normal operation
			1	Breaker UOB open		BOOLEAN			1=Unit output breaker UOB is open, and the UPS is prevented from supplying the load
			2	Breaker MBB closed		BOOLEAN			1=Maintenance bypass breaker MBB is closed, supplying the load with unprotected power from bypass
			3	Breaker SIB open		BOOLEAN			1=System isolation breaker SIB is open, and system cannot supply the load
			4	Breaker SSIB open		BOOLEAN			1=Static switch input breaker SSIB is open, preventing static bypass operation
			5	Breaker IMB closed		BOOLEAN			1=Internal maintenance bypass breaker IMB is closed, supplying the load with unprotected power from bypass

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
			6	Breaker RIMB closed		BOOLEAN			1=Remote internal maintenance bypass breaker RIMB is closed, supplying the load with unprotected power from bypass
			7	Reserved		BOOLEAN			
			8	Reserved		BOOLEAN			
			9	Ground fault detected		BOOLEAN			1=Dry contact input indicates that a ground wire fault has been detected
			10	Genset is supplying the UPS		BOOLEAN			1=Dry contact input indicates that a genset is supplying the UPS
			11	Battery room ventilation inoperable		BOOLEAN			1=Dry contact input indicates that the battery room ventilation is not working correctly
			12	External battery monitoring detected fault		BOOLEAN			1=Dry contact input indicates external battery monitoring detected fault
			13	UOB redundant monitoring not working correctly		BOOLEAN			1=The two redundant AUX contacts of UOB do not report the same status
			14	MBB redundant monitoring not working correctly		BOOLEAN			1=The two redundant AUX contacts of MBB do not report the same status
			15	IMB redundant monitoring not working correctly		BOOLEAN			1=The two redundant AUX contacts of IMB do not report the same status
40019	0x0012	18		Switchgear	1				
			0	RIMB redundant monitoring not working correctly		BOOLEAN			1=The two redundant AUX contacts of RIMB do not report the same status
			1	UPS locked in static bypass mode: activated		BOOLEAN			1=Dry contact input for UPS locked in static bypass mode is activated
			2	High efficiency mode disabled		BOOLEAN			1=High efficiency mode is disabled from a dry contact input
			3	External energy storage monitoring: minor alarm		BOOLEAN			1=Dry contact input indicates external energy storage monitoring has detected a minor fault
			4	External energy storage monitoring: major alarm		BOOLEAN			1=Dry contact input indicates external energy storage monitoring has detected a major fault
			5	External charger off command: activated		BOOLEAN			1=Dry contact input for charger off is activated
			6	Temperature of input and/or output transformer is too high		BOOLEAN			1=Temperature of input and/or output transformer is too high
			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		System level controller (SLC)	1				
			0	SLC in controller box is not working correctly		BOOLEAN			1=The SLC in the controller box is not working correctly
			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	Reserved		BOOLEAN			
			11	Reserved		BOOLEAN			
			12	Reserved		BOOLEAN			
			13	Reserved		BOOLEAN			
			14	Reserved		BOOLEAN			

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
			15	Reserved		BOOLEAN			
40021	0x0014	20		Unit controller (UC)	1				
			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	UC in controller box is not working correctly		BOOLEAN			1=The UC in the controller box is not working correctly
			9	UC communication lost - disconnected		BOOLEAN			1=Communication link between UC and SLC is lost. UC is disconnected
			10	UC communication lost - connected		BOOLEAN			1=Communication link between UC and SLC is lost. UC is connected
			11	UC communication not authenticated		BOOLEAN			1=Communication link between UC and SLC is not authenticated
			12	Reserved		BOOLEAN			
			13	Reserved		BOOLEAN			
			14	Reserved		BOOLEAN			
			15	Reserved		BOOLEAN			
40022	0x0015	21		Battery Charger	1				
			0	BMC communication lost - disconnected		BOOLEAN			1=Communication link between BMC and SLC is lost. BMC is disconnected
			1	BMC communication lost - connected		BOOLEAN			1=Communication link between BMC and SLC is lost. BMC is connected
			2	BMC communication not authenticated		BOOLEAN			1=Communication link between BMC and SLC is not authenticated
			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			
40023	0x0016	22		Energy Storage	1				
			0	Reserved		BOOLEAN			
			1	Modular battery string temperature out of tolerance		BOOLEAN			1=Modular battery string temperature is out of tolerance
			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	Reserved		BOOLEAN			
			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	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
40024	0x0017	23		Network	1	BOOLEAN			
			0	Low temperature threshold violation at remote sensor		BOOLEAN			1=A low temperature threshold violation exists for integrated environmental monitor sensor
			1	Minimum temperature threshols violation at remote sensor		BOOLEAN			1=A minimum temperature threshold violation exists for integrated environmental monitor sensor
			2	High temperature threshold violation at remote sensor		BOOLEAN			1=A high temperature threshold violation exists for integrated environmental monitor sensor
			3	Maximum temperature threshold violation at remote sensor		BOOLEAN			1=A maximum temperature threshold violation exists for integrated environmental monitor sensor
			4	Low humidity threshold violation at remote sensor		BOOLEAN			1=A low humidity threshold violation exists for integrated environmental monitor sensor
			5	Minimum humidity threshold violation at remote sensor		BOOLEAN			1=A minimum humidity threshold violation exists for integrated environmental monitor sensor
			6	High humidity threshold violation at remote sensor		BOOLEAN			1=A high humidity threshold violation exists for integrated environmental monitor sensor
			7	Maximum humidity threshold violation at remote sensor		BOOLEAN			1=A maximum humidity threshold violation exists for integrated environmental monitor sensor
			8	Lost communication to remote sensor		BOOLEAN			1=Lost the local network management interface-to-integrated environmental monitor communication
			9	Communication link between NMC and SLC is lost. NMC is disconnected from the system		BOOLEAN			1=Communication link between NMC and SLC is lost. NMC is disconnected
			10	Communication link between NMC and SLC is lost but the NMC is connected to the system		BOOLEAN			1=Communication link between NMC and SLC is lost. NMC is connected
			11	Communication link between NMC and SLC is not authenticated		BOOLEAN			1=Communication link between NMC and SLC is not authenticated
			12	NMC firmware incompatible		BOOLEAN			1=Firmware version of the NMC is incompatible
			13	Reserved		BOOLEAN			
			14	Reserved		BOOLEAN			
			15	Reserved		BOOLEAN			
Static Data									
44097	0x1000	4096		The firmware package version number of the UPS system	8	ASCII			
44105	0x1008	4104		The hardware version number of the UPS system	16	ASCII			
44121	0x1018	4120		The UPS model number (commercial reference)	16	ASCII			
44137	0x1028	4136		The UPS serial number	16	ASCII			
44153	0x1038	4152		The network management card firmware version number	8	ASCII			
44161	0x1040	4160		The network management card hardware version number	16	ASCII			
44177	0x1050	4176		The model number (commercial reference) of the network management card	16	ASCII			
44193	0x1060	4192		The network management card serial number	16	ASCII			
44209	0x1070	4208		Time since battery statistics timer reset (in minutes).	2	UINT32			min
44211	0x1072	4210		Total time for UPS in battery operation since battery statistics timer reset (in minutes).	2	UINT32			min
44213	0x1074	4212		Time since operational statistics timer reset (in minutes).	2	UINT32			min
44215	0x1076	4214		Total time for UPS in normal operation since operational statistics timer reset (in minutes).	2	UINT32			min
44217	0x1078	4216		Total time for UPS in bypass operation since operational statistics timer reset (in minutes).	2	UINT32			min
44219	0x107A	4218		Total time for UPS in ECOnversion mode since Operational Statistics timer reset (in minutes).	2	UINT32			min
44221	0x107C	4220		Time since the Battery was last replaced (in minutes).	2	UINT32			min

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
44223	0x107E	4222		Time since input energy counter timer reset (in minutes)	2	UINT32			min
44225	0x1080	4224		Time since ouput energy counter timer reset (in minutes)	2	UINT32			min
Dynamic Data									
44609	0x1200	4608		Alarm status of the unit	1				
				No alarms present		ENUM			0=No alarms present
				Informational alarm present		ENUM			1=Informational alarm present
				Warning alarm present		ENUM			2=Warning alarm present
				Critical alarm present		ENUM			3=Critical alarm present
44865	0x1300	4864		The present apparent output power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase1)	1	UINT16	0.1	10	kVA
44866	0x1301	4865		The present apparent output power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase2)	1	UINT16	0.1	10	kVA
44867	0x1302	4866		The present apparent output power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase3)	1	UINT16	0.1	10	kVA
44868	0x1303	4867		The present output current for each phase in A (phase1)	1	UINT16	0.01	100	A
44869	0x1304	4868		The present output current for each phase in A (phase2)	1	UINT16	0.01	100	A
44870	0x1305	4869		The present output current for each phase in A (phase3)	1	UINT16	0.01	100	A
44871	0x1306	4870		The present output crest factor for each phase. The output crest factor is the ratio of the peak value of the output current to the RMS (root mean square) value (phase1)	1	UINT16	0.1	10	
44872	0x1307	4871		The present output crest factor for each phase. The output crest factor is the ratio of the peak value of the output current to the RMS (root mean square) value (phase2)	1	UINT16	0.1	10	
44873	0x1308	4872		The present output crest factor for each phase. The output crest factor is the ratio of the peak value of the output current to the RMS (root mean square) value (phase3)	1	UINT16	0.1	10	
44874	0x1309	4873		The THD (total harmonic distortion) for each phase, as a percentage, for the present output current (phase1)	1	UINT16	0.1	10	%
44875	0x130A	4874		The THD (total harmonic distortion) for each phase, as a percentage, for the present output current (phase2)	1	UINT16	0.1	10	%
44876	0x130B	4875		The THD (total harmonic distortion) for each phase, as a percentage, for the present output current (phase3)	1	UINT16	0.1	10	%
44877	0x130C	4876		The present output power factor for each phase. Power factor is the ratio of active power to apparent power (phase1)	1	UINT16	0.01	100	
44878	0x130D	4877		The present output power factor for each phase. Power factor is the ratio of active power to apparent power (phase2)	1	UINT16	0.01	100	

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
44879	0x130E	4878		The present output power factor for each phase. Power factor is the ratio of active power to apparent power (phase3)	1	UINT16	0.01	100	
44880	0x130F	4879		The present active (or real) output power for each phase in kW. Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction (phase1)	1	UINT16	0.1	10	kW
44881	0x1310	4880		The present active (or real) output power for each phase in kW. Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction (phase2)	1	UINT16	0.1	10	kW
44882	0x1311	4881		The present active (or real) output power for each phase in kW. Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction (phase3)	1	UINT16	0.1	10	kW
44883	0x1312	4882		The present output voltage for each phase (phase1)	1	UINT16	0.1	10	V
44884	0x1313	4883		The present output voltage for each phase (phase2)	1	UINT16	0.1	10	V
44885	0x1314	4884		The present output voltage for each phase (phase3)	1	UINT16	0.1	10	V
44886	0x1315	4885		The present phase-to-phase output RMS voltage (phase1)	1	UINT16	0.01	100	V
44887	0x1316	4886		The present phase-to-phase output RMS voltage (phase2)	1	UINT16	0.01	100	V
44888	0x1317	4887		The present phase-to-phase output RMS voltage (phase3)	1	UINT16	0.01	100	V
44889	0x1318	4888		The present total apparent output power in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes	1	UINT16	0.1	10	kVA
44890	0x1319	4889		Output current as percentage of total available current (highest phase)	1	UINT16	0.1	10	%
44891	0x131A	4890		The present output frequency in Hz	1	UINT16	0.1	10	Hz
44892	0x131B	4891		The present total active (or real) output power (for all three phases) in kW	1	UINT16	0.01	100	kW
44893	0x131C	4892		The total energy supplied since the time of installation or since the counter was reset	2	UINT32	0.1	10	kWh
44895	0x131E	4894		The present output neutral current in A	1	UINT16	0.1	10	A
45121	0x1400	5120		The present apparent input power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase1)	1	UINT16	0.1	10	kVA
45122	0x1401	5121		The present apparent input power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase2)	1	UINT16	0.1	10	kVA

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
45123	0x1402	5122		The present apparent input power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase3)	1	UINT16	0.1	10	kVA
45124	0x1403	5123		The present input current for each phase in A (phase1)	1	UINT16	0.01	100	A
45125	0x1404	5124		The present input current for each phase in A (phase2)	1	UINT16	0.01	100	A
45126	0x1405	5125		The present input current for each phase in A (phase3)	1	UINT16	0.01	100	A
45127	0x1406	5126		The ratio of the active power to the apparent power (phase1)	1	UINT16	0.01	100	
45128	0x1407	5127		The ratio of the active power to the apparent power (phase2)	1	UINT16	0.01	100	
45129	0x1408	5128		The ratio of the active power to the apparent power (phase3)	1	UINT16	0.01	100	
45130	0x1409	5129		The present active (or real) input power for each phase in kW. Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction (phase1)	1	UINT16	0.1	10	kW
45131	0x140A	5130		The present active (or real) input power for each phase in kW. Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction (phase2)	1	UINT16	0.1	10	kW
45132	0x140B	5131		The present active (or real) input power for each phase in kW. Active power is the portion of power flow that, averaged over a complete cycle of the AC waveform, results in net transfer of energy in one direction (phase3)	1	UINT16	0.1	10	kW
45133	0x140C	5132		The present input voltage for each phase (phase1)	1	UINT16	0.1	10	V
45134	0x140D	5133		The present input voltage for each phase (phase2)	1	UINT16	0.1	10	V
45135	0x140E	5134		The present input voltage for each phase (phase3)	1	UINT16	0.1	10	V
45136	0x140F	5135		The present phase-to-phase input RMS voltage (phase1)	1	UINT16	0.01	100	V
45137	0x1410	5136		The present phase-to-phase input RMS voltage (phase2)	1	UINT16	0.01	100	V
45138	0x1411	5137		The present phase-to-phase input RMS voltage (phase3)	1	UINT16	0.01	100	V
45139	0x1412	5138		The present total apparent power input (for all three phases) in kVA	1	UINT16	0.1	10	kVA
45140	0x1413	5139		The present input frequency in Hz	1	UINT16	0.1	10	Hz
45141	0x1414	5140		The present total real power (or active power) input (for all three phases) in kW	1	UINT16	0.01	100	kW
45142	0x1415	5141		The total energy consumption since the time of installation or since the counter was reset.	2	UINT32	0.1	10	kWh
45377	0x1500	5376		The present apparent bypass power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase1)	1	UINT16	0.1	10	kVA

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
45378	0x1501	5377		The present apparent bypass power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase2)	1	UINT16	0.1	10	kVA
45379	0x1502	5378		The present apparent bypass power for each phase in kVA. Apparent power is the product of RMS (root mean square) volts and RMS amperes (phase3)	1	UINT16	0.1	10	kVA
45380	0x1503	5379		The present bypass current for each phase in A (phase1)	1	UINT16	0.01	100	A
45381	0x1504	5380		The present bypass current for each phase in A (phase2)	1	UINT16	0.01	100	A
45382	0x1505	5381		The present bypass current for each phase in A (phase3)	1	UINT16	0.01	100	A
45383	0x1506	5382		The present bypass power factor for each phase. Power factor is the ratio of active power to apparent power (phase1)	1	UINT16	0.01	100	
45384	0x1507	5383		The present bypass power factor for each phase. Power factor is the ratio of active power to apparent power (phase2)	1	UINT16	0.01	100	
45385	0x1508	5384		The present bypass power factor for each phase. Power factor is the ratio of active power to apparent power (phase3)	1	UINT16	0.01	100	
45386	0x1509	5385		The present active (or real) bypass power for each phase in kW. Active power is the time average of the instantaneous product of voltage and current (phase1)	1	UINT16	0.1	10	kW
45387	0x150A	5386		The present active (or real) bypass power for each phase in kW. Active power is the time average of the instantaneous product of voltage and current (phase2)	1	UINT16	0.1	10	kW
45388	0x150B	5387		The present active (or real) bypass power for each phase in kW. Active power is the time average of the instantaneous product of voltage and current (phase3)	1	UINT16	0.1	10	kW
45389	0x150C	5388		The present bypass voltage for each phase (phase1)	1	UINT16	0.1	10	V
45390	0x150D	5389		The present bypass voltage for each phase (phase2)	1	UINT16	0.1	10	V
45391	0x150E	5390		The present bypass voltage for each phase (phase3)	1	UINT16	0.1	10	V
45392	0x150F	5391		The present phase-to-phase bypass RMS voltage (V). (phase1)	1	UINT16	0.01	100	V
45393	0x1510	5392		The present phase-to-phase bypass RMS voltage (V). (phase2)	1	UINT16	0.01	100	V
45394	0x1511	5393		The present phase-to-phase bypass RMS voltage (V). (phase3)	1	UINT16	0.01	100	V
45395	0x1512	5394		The present total apparent bypass power (for all three phases) in kVA	1	UINT16	0.1	10	kVA
45396	0x1513	5395		The present bypass frequency in Hz	1	UINT16	0.1	10	Hz
45397	0x1514	5396		The present total active bypass power (for all three phases) in kW	1	UINT16	0.01	100	kW
45633	0x1600	5632		The general condition of the charger	1				
				Float charging		ENUM			0=Float charging
				Boost charging		ENUM			1=Boost charging
				Cyclic resting		ENUM			2=Cyclic resting
				Not charging		ENUM			3=Not charging

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
				Equalization charging		ENUM			4=Equalization charging
				Test in progress		ENUM			5=Test in progress
				Cyclic float charging		ENUM			6=Cyclic float charging
45634	0x1601	5633		The highest battery temperature from the connected temperature sensors	1	UINT16	0.1	10	Celsius
45635	0x1602	5634		The present DC power being drawn from the battery in kW	1	UINT16	0.1	10	kW
45636	0x1603	5635		Combined status for battery breakers.	1				
				Open		ENUM			0=Open
				Closed		ENUM			1=Closed
45637	0x1604	5636		The amount of time before the batteries reach the low-voltage shutdown level	2	UINT32	1	1	Sec
45639	0x1606	5638		Estimated time for recharging the battery	2	UINT32	1	1	Sec
45641	0x1608	5640		The present battery charge, as a percentage of full charge capacity	1	UINT16	1	1	%
45642	0x1609	5641		The present battery voltage (V)	1	UINT16	0.1	10	V
45643	0x160A	5642		The present battery current (A). A positive current indicates that the battery is charging; a negative current indicates that the battery is discharging.	1	UINT16	0.1	10	A
45644	0x160B	5643		Status of battery self-test. Can indicate the battery test status triggered by user-commanded or scheduled self-test	1				
				Battery self-test is inactive		ENUM			0=Battery self test is inactive
				Battery self-test is running		ENUM			1=Battery self test is running
				Battery self-test is aborted because the system detects a critical alarm		ENUM			2=Battery self-test is aborted because the system detects a critical alarm
				Battery self-test is aborted due to user command		ENUM			3=Battery self test is aborted due to user command
				Battery self-test is completed		ENUM			4=Battery self test is completed
45645	0x160C	5644		Status indicates the battery health state result from battery test	1				
				Battery condition is OK		ENUM			0=Battery condition is OK
				Battery condition is unknown		ENUM			1=Battery condition is unknown
				Battery condition is weak		ENUM			2=Battery condition is weak
				Battery condition is poor		ENUM			3=Battery condition is poor
45646	0x160D	5645		The operation mode of the charger	1				
				Battery is resting		ENUM			0=Battery is resting
				Battery is charging		ENUM			1=Battery is charging
				Battery is discharging		ENUM			2=Battery is discharging
45647	0x160E	5646		Measurement of the total available battery capacity in Ah for the UPS	1	UINT16	1	1	Ah
45648	0x160F	5647		Status that indicates if there are battery modules from different vendors installed in the modular battery system (not on string level but on system level)	1				
				State is OK		ENUM			0=State is OK
				State is not OK		ENUM			1=State is not OK
45649	0x1610	5648		Modular battery DC relay status	1				
				Breaker is opened		ENUM			0=Breaker is opened
				Breaker is closed		ENUM			1=Breaker is closed
45889	0x1700	5888		Switchgear system status	1				
			0	Unit input breaker (UIB) status		BOOLEAN			1=Closed
			1	Unit output breaker (UOB) status		BOOLEAN			1=Closed
			2	Static switch input breaker (SSIB) status		BOOLEAN			1=Closed
			3	Internal maintenance bypass breaker (IMB) status		BOOLEAN			1=Closed
			4	Maintenance bypass breaker (MBB) status		BOOLEAN			1=Closed
			5	Redundant internal maintenance bypass breaker (RIMB) status		BOOLEAN			1=Closed

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale		Valid Response
							Multiply Reading By:	Divide Reading By:	
			6	System isolation breaker (SIB) status		BOOLEAN			1=Closed
45890	0x1701	5889		Status of the firmware upgrade process	1				
				Firmware update in INIT state		ENUM			0=Firmware update in INIT state
				Firmware update in IDLE State		ENUM			1=Firmware update in IDLE State
				Firmware package is DOWNLOADING		ENUM			2=Firmware package is DOWNLOADING
				Firmware package is INSTALLING		ENUM			3=Firmware package is INSTALLING
				Firmware package is in REBOOTING state		ENUM			4=Firmware package is in REBOOTING state
				Firmware update in FULL_SYS_UPDATE_FAIL state		ENUM			5=Firmware update in FULL_SYS_UPDATE_FAIL state
				Firmware update in FULL_SYS_UPDATE_DONE state		ENUM			6=Firmware update in FULL_SYS_UPDATE_DONE state
				Firmware update in FULL_SYS_UPDATE_ABORTED state		ENUM			7=Firmware update in FULL_SYS_UPDATE_ABORTED state
				Firmware update in SPARE_PART_UPDATE state		ENUM			8=Firmware update in SPARE_PART_UPDATE state
				Firmware update did not succeed		ENUM			9=Firmware update did not succeed
45891	0x1702	5890		Reserved	1				
45892	0x1703	5891		The present operation mode of the complete UPS system	1				
				System: off operation		ENUM			0=System is in off operation
				System: inverter operation		ENUM			1=System is in inverter operation
				System: forced static bypass operation		ENUM			2=System is in forced static bypass operation
				System: requested static bypass operation		ENUM			3=System is in requested static bypass operation
				System: maintenance bypass operation		ENUM			4=System is in maintenance bypass operation
				System: static bypass standby operation		ENUM			5=System is in static bypass standby operation
				System: ECOnversion mode		ENUM			6=System is in ECOnversion mode
				System: ECO mode		ENUM			7=System is in ECO mode
45893	0x1704	5892		The present operation mode of the UPS	1				
				UPS: initialize operation		ENUM			0=UPS is in is in initialize operation
				UPS: off operation		ENUM			1=UPS is in is in off operation
				UPS: battery operation		ENUM			2=UPS is in is in battery operation
				UPS: normal operation		ENUM			3=UPS is in is in normal operation
				UPS: forced static bypass operation		ENUM			4=UPS is in is in forced static bypass operation
				UPS: requested static bypass operation		ENUM			5=UPS is in is in requested static bypass operation
				UPS: maintenance bypass operation		ENUM			6=UPS is in maintenance bypass operation
				UPS: emergency static bypass operation		ENUM			7=UPS is in emergency static bypass operation
				UPS: inverter standby operation		ENUM			8=UPS is in inverter standby operation
				UPS: static bypass standby operation		ENUM			9=UPS is in static bypass standby operation
				UPS: battery test		ENUM			10=UPS is in battery test
				UPS: inverter SPoT mode		ENUM			11=UPS is in inverter SPoT mode
				UPS: charger SPoT mode		ENUM			12=UPS is in charger SPoT mode
				UPS: battery SPoT mode		ENUM			13=UPS is in battery SPoT mode
				UPS: ECOnversion mode		ENUM			14=UPS is in ECOnversion mode
				UPS: ECO mode		ENUM			15=UPS is in ECO mode
45894	0x1705	5893		UPS base model number check	1				
				State is OK		ENUM			0=State is OK
				State is not OK		ENUM			1=State is not OK
46145	0x1800	6144		The present phase-to-phase input current in amperes in A (phase 1)	1	UINT16	0.1	10	A
46146	0x1801	6145		The present phase-to-phase input current in amperes in A (phase 2)	1	UINT16	0.1	10	A
46147	0x1802	6146		The present phase-to-phase input current in amperes in A (phase 3)	1	UINT16	0.1	10	A
46148	0x1803	6147		The present phase-to-phase bypass current in amperes in A (phase 1)	1	UINT16	0.1	10	A

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
46149	0x1804	6148		The present phase-to-phase bypass current in amperes in A (phase 2)	1	UINT16	0.1	10	A
46150	0x1805	6149		The present phase-to-phase bypass current in amperes in A (phase 3)	1	UINT16	0.1	10	A
46151	0x1806	6150		The present phase-to-phase output current in amperes in A (phase 1)	1	UINT16	0.1	10	A
46152	0x1807	6151		The present phase-to-phase output current in amperes in A (phase 2)	1	UINT16	0.1	10	A
46153	0x1808	6152		The present phase-to-phase output current in amperes in A (phase 3)	1	UINT16	0.1	10	A
46154	0x1809	6153		The present total apparent output power (for all three phases) for the parallel system	1	UINT16	0.1	10	kVA
46155	0x180A	6154		The percentage of the UPS system capacity presently used across all phases. The load percentage for the highest phase load is displayed	1	UINT16	0.1	10	%
46156	0x180B	6155		The present total active output power (for all three phases) for the parallel system	1	UINT16	0.1	10	kW
46401	0x1900	6400		The temperature measured by the sensor	1	UINT16	0.1	10	°C
46402	0x1901	6401		The humidity measured by the sensor	1	UINT16	0.1	10	% RH
Configuration Data									
48193	0x2000	8192		This is the configured AC voltage system setting. The setting applies for input as well if no specific setting is placed in input system.	1				
				Output voltage 380VAC PhPh		ENUM			0=Output voltage 380VAC PhPh
				Output voltage 400VAC PhPh		ENUM			1=Output voltage 400VAC PhPh
				Output voltage 415VAC PhPh		ENUM			2=Output voltage 415VAC PhPh
				Output voltage 480VAC PhPh		ENUM			3=Output voltage 480VAC PhPh
				Output voltage 208VAC PhPh		ENUM			4=Output voltage 208VAC PhPh
				Output voltage 200VAC PhPh		ENUM			5=Output voltage 200VAC PhPh
				Output voltage 220VAC PhPh		ENUM			6=Output voltage 220VAC PhPh
				Output voltage 440VAC PhPh		ENUM			7=Output voltage 440VAC PhPh
48194	0x2001	8193		Setting for single mains or dual mains supply	1				
				Single mains system		ENUM			0=Single mains system
				Dual mains system		ENUM			1=Dual mains system
48195	0x2002	8194		Ramp in timer for input current limitation during transfer from battery to normal operation	1	UINT16			Sec
48196	0x2003	8195		Defines the AC wiring of the system: 3-wire does not include neutral; 4-wire includes neutral	1				
				3-wire system configuration		ENUM			0=3 wire-system configuration
				4-wire system configuration		ENUM			1=4 wire-system configuration
				4-wire system configuration HRG		ENUM			2=4-wire system configuration HRG
48197	0x2004	8196		Energy storage type	1				
				No energy storage		ENUM			0=No energy storage
				Battery/batteries		ENUM			1=Battery/batteries
				Flywheel		ENUM			2=Flywheel
				Ultra capacitors		ENUM			3=Ultra capacitors
48198	0x2005	8197		Voltage compensation. Increase voltage to compensate for different cable lengths	1	UINT16	0.1	10	%
48199	0x2006	8198		This is the output frequency setting including the tolerance. This drives whether the output is in sync with the input.	1				
				Frequency of 50 Hz +/- 1.0 Hz.		ENUM			0=Frequency of 50 Hz +/- 1.0 Hz.
				Frequency of 50 Hz +/- 3.0 Hz.		ENUM			1=Frequency of 50 Hz +/- 3.0 Hz.
				Frequency of 60 Hz +/- 1.0 Hz.		ENUM			2=Frequency of 60 Hz +/- 1.0 Hz.

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
				Frequency of 60 Hz +/- 3.0 Hz.		ENUM			3=Frequency of 60 Hz +/- 3.0 Hz.
				Frequency of 50 Hz +/- 10.0 Hz.		ENUM			4=Frequency of 50 Hz +/- 10.0 Hz.
				Frequency of 60 Hz +/- 10.0 Hz.		ENUM			5=Frequency of 60 Hz +/- 10.0 Hz.
48200	0x2007	8199		The UPS power rating (kVA).	1	UINT16			kVA
48201	0x2008	8200		Acceptable voltage as percent of nominal voltage (voltage tolerance)	1	UINT16			%
48202	0x2009	8201		Delay time before autostart of the inverter after input source returns after an outage	1				
				Function disabled		ENUM			0=Function disabled
				Function enabled		ENUM			1=Function enabled
48203	0x200A	8202		Set user-defined threshold for output overload status.	1	UINT16	0.1	10	%
48204	0x200B	8203		Settings for autoboost mode of the charger	1				
				Disable autoboost charger		ENUM			0=Disable autoboost charger
				Enable autoboost charger		ENUM			1=Enable autoboost charger
48205	0x200C	8204		Setting for charge current rate by user	1	UINT16	0.01	100	
48206	0x200D	8205		Setting for auto cyclic mode charge mode	1				
				Function disabled		ENUM			0=Function disabled
				Function enabled		ENUM			1=Function enabled
48207	0x200E	8206		Configuration of breakers	1				
				Not present		ENUM			0=Not present
				Present		ENUM			1=Present
48208	0x200F	8207		Configuration of breakers	1				
				Not present		ENUM			0=Not present
				Present		ENUM			1=Present
48209	0x2010	8208		Battery deep discharge settings.	1				
				Deep discharge is not allowed.		ENUM			0=Deep discharge is not allowed.
				Deep discharge is allowed.		ENUM			1=Deep discharge is allowed.
48210	0x2011	8209		Setting for minimum allowed temperature	1	UINT16	0.1	10	Celsius
48211	0x2012	8210		Setting for maximum allowed temperature	1	UINT16	0.1	10	Celsius
48212	0x2013	8211		Battery solution setting for predefined battery solutions	1				
				Custom battery solution		ENUM			0=Custom battery solution
				Battery solution type GVSCBC7A		ENUM			1=Battery solution type GVSCBC7A
				Battery solution type GVSCBC7B		ENUM			2=Battery solution type GVSCBC7B
				Battery solution type GVSCBC7C		ENUM			3=Battery solution type GVSCBC7C
				Battery solution type GVSCBC10A/GVSCBC10A2		ENUM			4=Battery solution type GVSCBC10A/GVSCBC10A2
				Battery solution type GVSCBC10B/GVSCBC10B2		ENUM			5=Battery solution type GVSCBC10B/GVSCBC10B2
				Battery solution type GVSCBT1/GVSCBT1ST		ENUM			6=Battery solution type GVSCBT1/GVSCBT1ST
				Battery solution type GVSCBT2/GVSCBT2ST		ENUM			7=Battery solution type GVSCBT2/GVSCBT2ST
				Battery solution type GVSCBT3/GVSCBT3ST		ENUM			8=Battery solution type GVSCBT3/GVSCBT3ST
				Battery solution type GVSCBT4/GVSCBT4ST		ENUM			9=Battery solution type GVSCBT4/GVSCBT4ST
				Battery solution type GVSCBT5/GVSCBT5ST		ENUM			10=Battery solution type GVSCBT5/GVSCBT5ST
				Battery solution type LIBATTSMGEIEC		ENUM			11=Battery solution type LIBATTSMGEIEC
				Battery solution type LIBATTSMGEUL		ENUM			12=Battery solution type LIBATTSMGEUL
				Modular battery solution		ENUM			13=Modular battery solution
				Battery solution type GVSCBT6ST		ENUM			14=Battery solution type GVSCBT6ST
				Battery solution type GVSCBT7ST		ENUM			15=Battery solution type GVSCBT7ST
48213	0x2014	8212		Setting for automatic test	1				
				Never autotest		ENUM			0=Never autotest
				Autotest every week		ENUM			1=Autotest every week
				Autotest every 2 week		ENUM			2=Autotest every 2 week
				Autotest every 4 week		ENUM			3=Autotest every 4 week
				Autotest every 8 week		ENUM			4=Autotest every 8 week
				Autotest every 12 week		ENUM			5=Autotest every 12 week
				Autotest every 26 week		ENUM			6=Autotest every 26 week

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Scale Divide Reading By:	Valid Response
				Autotest every 52 week		ENUM			7=Autotest every 52 week
48214	0x2015	8213		Time of day battery test should start. The min should be 0 the max should be 86399 (24 hours).	2	UINT32	1	1	Sec
48216	0x2017	8215		Day of week battery test should start	1				
				Test on Monday		ENUM			0=Test on Monday
				Test on Tuesday		ENUM			1=Test on Tuesday
				Test on Wednesday		ENUM			2=Test on Wednesday
				Test on Thursday		ENUM			3=Test on Thursday
				Test on Friday		ENUM			4=Test on Friday
				Test on Saturday		ENUM			5=Test on Saturday
				Test on Sunday		ENUM			6=Test on Sunday
48217	0x2018	8216		Switchgear system setting	1				
			0	Unit input breaker (UIB) setting		BOOLEAN			1=Present
			1	Unit output breaker (UOB) setting		BOOLEAN			1=Present
			2	Static switch input breaker (SSIB) setting		BOOLEAN			1=Present
			3	Maintenance bypass breaker (MBB) setting		BOOLEAN			1=Present
			4	Redundant internal maintenance breaker (RIMB) setting		BOOLEAN			1=Present
			5	System isolation breaker (SIB) setting		BOOLEAN			1=Present
48218	0x2019	8217		Slew rate of the inverter	1				
				Slew rate is 0.25 Hz/s		ENUM			0=Slew rate is 0.25 Hz/s
				Slew rate is 0.50 Hz/s		ENUM			1=Slew rate is 0.50 Hz/s
				Slew rate is 1 Hz/s		ENUM			2=Slew rate is 1 Hz/s
				Slew rate is 2 Hz/s		ENUM			3=Slew rate is 2 Hz/s
				Slew rate is 4 Hz/s		ENUM			4=Slew rate is 4 Hz/s
				Slew rate is 6 Hz/s		ENUM			5=Slew rate is 6 Hz/s
48219	0x201A	8218		Setting for adjusting the output voltage to compensate for load dependant transformer voltage drop. It must be synchronized in parallel systems.	1	UINT16			%
48220	0x201B	8219		Setting to configure break duration in ms. when shifting to an asynchronous bypass.	1	UINT16	1	1	ms
48221	0x201C	8220		The charging capacity based on system kW rating.	1	UINT16	1	1	%
48222	0x201D	8221		The number of modular battery cabinets connected to the UPS.	1	UINT16			
48223	0x201E	8222		The parallel UPS number of the operated UPS.	1	UINT16	1	1	
48224	0x201F	8223		Setting for which parallel UPSs are present in the system. Each UPS can be selected as present or not present.	1				
			0	unit_1		BOOLEAN			1=Present
			1	unit_2		BOOLEAN			1=Present
			2	unit_3		BOOLEAN			1=Present
			3	unit_4		BOOLEAN			1=Present
48225	0x2020	8224		The selected number of redundant UPSs in the parallel system.	1				
				N+0		ENUM			0=N+0
				N+1		ENUM			1=N+1
				N+2		ENUM			2=N+2
				N+3		ENUM			3=N+3
48226	0x2021	8225		The minimum number of parallel units available to start up automatically.	1	UINT16	1	1	
48227	0x2022	8226		Status to indicate whether there are enough UPSs for the parallel system to enter the inverter operation mode.	1				
				State is OK		ENUM			0=State is OK
				State is not OK		ENUM			1=State is not OK

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length	Data Type	Scale Multiply Reading By:	Divide Reading By:	Valid Response
48228	0x2023	8227		Current UPS power rating (kW).	1	UINT16			kW
48229	0x2024	8228		Battery type of the connected batteries	1				
				Valve-regulated lead-acid, or maintenance-free		ENUM			0=Valve-regulated lead-acid or maintenance-free battery type
				Vented, flooded, wet, or open cell		ENUM			1=Vented, flooded, wet, or open cell battery type
				Lithium-ion		ENUM			2=Lithium-ion battery type
				NiCd		ENUM			3=NiCd battery type