

synergy™

Programming Guide



SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Auto Setup					The Unit has numerous preset applications built in as standard. Select the application best suited to the load. The selected application will automatically change several parameters and functions. Depending on the application loaded the "Trip Class" may also change Refer to the separate 'applications document' for more details	19200
Auto Setup	>>>>>>>>	>>>>>>>>	Application:		Range Default - End of list Default Default Type Read/Write	
Auto Setup					The trip class is a numeric value that correlates the trip time with overload level. Select Trip class according to application requirements The trip time depends on the selected Trip Class. The duration of the overload and the level of the over current. Refer to the Motor Overload 'cold' trip curves given in the Quick Start Guide. When "Class 20" or "Class30" are selected the Unit current rating (i-Unit) will be reduced to a lower value (i-rated).	25664
Auto Setup	>>>>>>>>	>>>>>>>>	Trip Class		Range Trip Class 10 - Trip Class 30 Default Trip Class 10 Type Read/Write	
Auto Setup					This should be set to the Full Load Current shown on the motor plate The overload works with multiples of the set "Motor Current" (i-motor) Also referred to as Motor FLA	25728
Auto Setup	>>>>>>>>	>>>>>>>>	Motor Current		Range 50% I-rated A - 100% I-rated A Default 100% I-rated A Type Read/Write	
Auto Setup					Local Touch Screen : Control using the button on the keypad User Programmable : Control using the terminals. Function defined in "I/O" menu Two Wire Control : Control using terminals. Functions fixed as shown on screen Three Wire Control : Control using terminals. Functions fixed as shown on screen Modbus Network : Control via remote Modbus network or remote Keypad or Modbus TCP	59392
Auto Setup	>>>>>>>>	>>>>>>>>	Control Method		Range Local Touch Screen - Modbus Network Default Local Touch Screen Type Read/Write	
Auto Setup					The digital inputs D1-1I D1-2I D2-1I are designed to work with a range of control supplies 230V : 'Active high level' Input voltage must be in the range 195.5V - 253V 110V : 'Active high level' Input voltage must be in the range 93.5V - 121V 24V : 'Active high level' input voltage must be in the range 20.4V-26.4V It is important to ensure the "Digital input Voltage" corresponds to the voltage applied to the input. Failure to do so may result in damage.	10880
Auto Setup	>>>>>>>>	>>>>>>>>	Digital Input Voltage		Range 230V - 24VDC Default 230V Type Read/Write	

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Advanced					Saves all Read /Write parameters to non volatile memory	62144
Advanced	>>>>>>>>	>>>>>>>>	Save Parameters		Yes : Parameters are permanently written No : Parameters remain changed until next power cycle	
				Range	No - Yes Default No Type Read/Write	
					Automatically controls the starting torque	19840
Advanced	Automatic Settings	>>>>>>>>	Automatic Pedestal		On : The initial torque is increased until the motor starts to rotate at a moderate speed. Off: The initial torque is defined by the "Start Pedestal"	
				Range	Off - On Default Off Type Read/Write	
					Automatically controls the torque applied to the motor during the soft start.	20352
Advanced	Automatic Settings	>>>>>>>>	Automatic Ramp		On : The torque is adjusted to suit the load. Off: The ramp time depends on the "Start Time" and "Current Limit"	
				Range	Off - On Default Off Type Read/Write	
					Automatically controls the time taken for the motor to start	19968
Advanced	Automatic Settings	>>>>>>>>	Automatic End Start (1)		On : The ramp time is shortened if the motor is at speed before the end of the "Start Time" Off: The ramp time depends on the "Start Time" and "Current Limit"	
				Range	Off - On Default Off Type Read/Write	
					Automatically controls the soft stop to suit the application. This feature is particularly useful with pumping applications	20160
Advanced	Automatic Settings	>>>>>>>>	Automatic Stop		On : If the motor is lightly loaded it decelerates rapidly to the point where the soft stop becomes useful. Off : The deceleration to the point where the soft stop becomes useful will be slower.	
				Range	Off - On Default Off Type Read/Write	

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Advanced	Automatic Settings	>>>>>>>>	Automatic Stop Profile		Adjusts the response of the "Automatic Stop" Increase if the motor speed doesn't drop quickly enough. When the value is set to zero the "Automatic Stop" is effectively disabled Range 0 % - 100 % Default 50 % Type Read/Write	20608
Advanced	Automatic Settings	>>>>>>>>	Automatic End Stop		Automatically controls the "Stop Time" On : The ramp time is shortened if the motor reaches a very low speed before the end of the "Stop Time" Off: The ramp time " depends on the "Stop Time" and "Current Limit" Range Off - On Default Off Type Read/Write	20416
Advanced	Automatic Settings	>>>>>>>>	Automatic Impact Load		Automatically controls the maximum iERS saving level. On : The maximum iERS saving level ("BackStop") is reset to maximum during each load cycle. Off : The saving potential may be reduced on applications with heavy load cycles. Such as injection moulding machines. Range Off - On Default Off Type Read/Write	20480
Advanced	Automatic Settings	>>>>>>>>	Auto Smooth Stop		Automatically controls the soft stop to eliminate oscillations that can occur towards the end of the ramp On : The soft stop is adjusted when oscillations are detected. Refer to "Auto smoothing Level" Off : The soft stop is unadjusted and torque fluctuations may cause instability. This can often occur in pumping applications Range Off - On Default Off Type Read/Write	20224
Advanced	Automatic Settings	>>>>>>>>	Auto Smoothing Level		Adjusts the response of the "Automatic smoothing" Increase to provide a greater smoothing effect If there are torque fluctuations that occur during the soft stop. When set to zero the smoothing is effectively disabled. Range 10 % - 100 % Default 50 % Type Read/Write	20672

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Advanced	Automatic Settings	>>>>>>>>	Automatic End Start (2)		Automatically controls the time taken for the motor to start On : The ramp time is shortened if the motor current falls below the current limit level before the end of the "Start Time". Off: The ramp time depends on the "Start Time" and "Current Limit" Range Off - On Default Off Type Read/Write	19904
Advanced	Automatic Settings	>>>>>>>>	Automatic End Start (3)		Automatically controls the time taken for the motor to start On : The ramp time is shortened if torque fluctuations occur before the end of the "Start Time" Off: The ramp time depends on the "Start Time" and "Current Limit" Range Off - On Default Off Type Read/Write	20032
Advanced	Automatic Settings	>>>>>>>>	Rate End Start (3)		Adjusts the response of the "Automatic End Start (3)" Increase to provide a greater smoothing effect If there are torque fluctuations that occur during the soft start. When set to zero the smoothing is effectively disabled. Range 0 % - 100 % Default 50 % Type Read/Write	768
Advanced	Start Settings	>>>>>>>>	Start Time		Time taken to soft start from the "Start Pedestal" to the end of the start Normally set between 5 and 30 seconds. Actual time to get to full voltage depends on the "Start Current Limit Level". If set too long the motor can be at speed before the end of the time set. Refer to "Automatic End Start" Range 1 s - 300 s Default 10 s Type Read/Write	7104
Advanced	Start Settings	>>>>>>>>	Start Pedestal		Percentage of the supply voltage applied to motor at the beginning of the soft start. Increase to provide more torque If the load fails to break away. Decrease if the motor accelerates too quickly. Range 10 % - 100 % Default 20 % Type Read/Write	704

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					Selects trip or continue if the current limit has been active for too long On : The Unit will trip Off: The start will continue regardless of the motor current level Range Off - On Default On Type Read/Write	53790
					The current in Amps at which the soft Start ramp is held. Normally set to 350% of motor FLC. Increase if motor fails to accelerate at required rate The "Current Limit Level" will effect actual time to start. If set too low the motor may not accelerate to full speed. Range 50% I-motor A - 450% I-synergy A Default 350% I-motor A Type Read/Write	26880
					The maximum time allowed for the current limit. If the current limit is still active at the end of this period the Unit will either 'Trip' or 'continue' Range 1 s - 600 s Default 30 s Type Read/Write	26944
					Applies a short duration torque pulse to dislodge 'sticky' loads On : The torque pulse is applied at start-up when complete the torque drops to the "Start Pedestal" Off: The initial starting torque is defined by the "Start Pedestal" Range Off - On Default Off Type Read/Write	320
					Time that the torque pulse is applied to load Increase to provide more torque If the load fails to break away. Decrease if the motor accelerates too quickly. Range 10 ms - 2000 ms Default 100 ms Type Read/Write	7040

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Advanced Start Settings Kick Start Kick Start Pedestal					Percentage of the supply voltage applied to the motor during the 'kick' period Increase to provide more torque If the load fails to break away. Decrease if the motor accelerates too quickly. Range 30 % - 80 % Default 75 % Type Read/Write	640
Advanced Start Settings >>>>>>>> Contactor Delay					Time allowed for external contactors to close. Increase if contactors are driven by buffer relays or motor trips on phase loss when start signal applied Decrease if response to start signal needs to be improved Range 20 ms - 800 ms Default 160 ms Type Read/Write	8320
Advanced Stop Settings >>>>>>>> Stop Time					The time taken to soft stop from full voltage or the iERS level to the 'Stop Pedestal' Normally set between 15 and 60 seconds. Actual time to get to 'Stop Pedestal' depends on the "Stop Current Limit Level". If set too long the motor may reach zero speed before the end of the time set. Refer to "Automatic End Stop" Range 0 s - 300 s Default 0 s Type Read/Write	7296
Advanced Stop Settings >>>>>>>> Stop Pedestal					Percentage of the supply voltage applied to the motor at the end of the soft stop Increase if the motor crawls at the end of the soft stop. Decrease if a greater soft-stop effect is required at the end of the ramp. Range 10 % - 40 % Default 10 % Type Read/Write	896
Advanced Stop Settings Stop Current Limit Stop Current Limit Trip					Selects trip or continue if the stop current limit has been active for too long On : The Unit will trip Off: The stop will continue regardless of the motor current level Range Off - On Default Off Type Read/Write	53791

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Advanced Stop Settings Stop Current Limit Stop Current Limit Level					The current in Amps at which the soft stop ramp is not allowed to go above. Normally set to 350% motor FLC. Increase if motor decelerates too rapidly. The current limit level will effect actual time to stop the motor. Range 100% I-motor A - 450% I-synergy A Default 350% I-motor A Type Read/Write	28800
Advanced Stop Settings Stop Current Limit Stop Current Limit Time					The maximum time allowed for the current limit. If the current limit is still active at the end of this period the Unit will either trip or continue Range 1 s - 300 s Default 10 s Type Read/Write	28864
Advanced Motor Protection >>>>>>>> Motor Current					This should be set to the Full Load Current shown on the motor plate The overload works with multiples of the set "Motor Current" (i-motor) Also referred to as Motor FLA Range 50% I-rated A - 100% I-rated A Default 100% I-rated A Type Read/Write	25728
Advanced Motor Protection >>>>>>>> Trip Class					The trip class is a numeric value that correlates the trip time with overload level. Select Trip class according to application requirements The trip time depends on the selected Trip Class. The duration of the overload and the level of the over current. Refer to the Motor Overload 'cold' trip curves given in the Quick Start Guide. When "Class 20" or "Class30" are selected the Unit current rating (i-Unit) will be reduced to a lower value (i-rated). Range Trip Class 10 - Trip Class 30 Default Trip Class 10 Type Read/Write	25664
Advanced Motor Protection Low Current Settings Low Current Trip					This can be used to detect if the motor is running lightly loaded. On : The Unit will trip. This feature is not active during soft start and soft stop. Off: The Unit will continue to operate regardless of motor current Range Off - On Default Off Type Read/Write	53787

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					The current in Amps that will cause a trip A trip will occur if the motor current is less than the "Trip Level" for the "Trip Time"	26304
Advanced	Motor Protection	Low Current Settings	Low Current Trip Level	Range	25% I-motor A - 100% I-motor A Default 25% I-motor A Type Read/Write	
					The trip time for the Low current trip A trip will occur if the motor current is less than the "Trip Level" for the "Trip Time"	26368
Advanced	Motor Protection	Low Current Settings	Low Current Trip Time	Range	100 ms - 9000 ms Default 100 ms Type Read/Write	
					The shearpin is an electronic equivalent of a mechanical shearpin On : The Unit will trip. This feature is not active during soft start and soft stop. Off: The Unit will continue to operate regardless of motor current level	53793
Advanced	Motor Protection	Shearpin Settings	Shearpin Trip	Range	Off - On Default On Type Read/Write	
					The current in Amps that will cause a "Shearpin Trip" A trip will occur if the motor current is greater than the "Trip Level" for the "Trip Time"	27584
Advanced	Motor Protection	Shearpin Settings	Shearpin Trip Current	Range	100% I-motor A - 450% I-synergy A Default 450% I-synergy A Type Read/Write	
					The trip time for the Shearpin trip A trip will occur if the motor current is greater than the "Trip Level" for the "Trip Time"	27648
Advanced	Motor Protection	Shearpin Settings	Shearpin Trip Time	Range	100 ms - 9000 ms Default 100 ms Type Read/Write	

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Advanced	Motor Protection	Overload Settings	Overload Trip		The Unit has an "Overload" function that is an electronic equivalent to a thermal overload. On : The Unit will trip when the "Overload" capacity (ModbusPNU 33408) exceeds 100% Off: The Unit will continue to operate regardless of motor current level Range Off - On Default On Type Read/Write	53792
Advanced	Motor Protection	Overload Settings	Overload Level		Determines the level in Amps at which the overload will start. Normally set to 115% of the set motor current (i-motor) Reduce to speed up trip response Range 50% I-motor A - 125% I-motor A Default 115% I-motor A Type Read/Write	28224
Advanced	iERS	>>>>>>>>	iERS		Enables and disables the intelligent Energy Recovery System feature (iERS). On : The voltage to the motor will be regulated to ensure optimum efficiency. Off : The feature is disabled and the motor operates at full voltage Range Off - On Default On Type Read/Write	21120
Advanced	iERS	>>>>>>>>	Dwell Time		The time from the End of the start to the point where the iERS saving mode becomes active. Normally set to 5 seconds to ensure the motor is at full speed before the iERS saving becomes active Increase to allow time for the motor to stabilise. Range 1 s - 300 s Default 5 s Type Read/Write	7360
Advanced	iERS	>>>>>>>>	iERS Rate		Determines the rate at which the load is regulated during the iERS energy saving mode During periods of instability the "Current Irms" and "True Power Factor" will oscillate rapidly. Increase if the applications shows signs of instability. Reduce to increase the speed of response Range 0 % - 100 % Default 25 % Type Read/Write	21184

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Advanced	iERS	>>>>>>>>	iERS Level		Determines the maximum energy saving potential. Reduce if the application shows signs of instability. The amount of energy that can be saved may fall as the "iERS level" is reduced. Range 0 % - 100 % Default 100 % Type Read/Write	21376
Advanced	iERS	>>>>>>>>	Fixed Voltage		User settable voltage level for power calculations If required can be used to improve accuracy of power calculations Range 100 V - 500 V Default 100 V Type Read/Write	35200
Advanced	iERS	>>>>>>>>	Fixed Voltage		Selects the source for the voltage value used in the power calculations. on: KW KVar and KVA are calculated using the "Fixed Voltage" off: KW KVar and KVA are calculated using the internally measured voltage. Range Off - On Default Off Type Read/Write	35264
Advanced	>>>>>>>>	>>>>>>>>	Control Method		Local Touch Screen : Control using the button on the keypad User Programmable : Control using the terminals. Function defined in "I/O" menu Two Wire Control : Control using terminals. Functions fixed as shown on screen Three Wire Control : Control using terminals. Functions fixed as shown on screen Modbus Network : Control via remote Modbus network or remote Keypad or Modbus TCP Range Local Touch Screen - Modbus Network Default Local Touch Screen Type Read/Write	59392
Advanced	Trip Settings	>>>>>>>>	Trip Sensitivity		Adjusts the reaction time to fault trips Increase "Trip Sensitivity" to slow the response to fault trips. Sometimes useful on sites where electrical noise is causing nuisance tripping This is a global setting. Increasing "Trip Sensitivity" will slow the response of all the trips. Range 0 % - 100 % Default 0 % Type Read/Write	44864

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Advanced	Trip Settings	>>>>>>>>	Cover Open Trip		For safety purposes the Unit has been designed to trip if the front cover is open On : The Unit will trip if the front cover is open. This trip is active at all times. Off : The Unit will continue to operate with the cover open Range Off - On Default Off Type Read/Write	53803
Advanced	Trip Settings	>>>>>>>>	Shearpin Trip		The shearpin is an electronic equivalent of a mechanical shearpin On : The Unit will trip. This feature is not active during soft start and soft stop. Off: The Unit will continue to operate regardless of motor current level Range Off - On Default On Type Read/Write	53793
Advanced	Trip Settings	>>>>>>>>	Overload Trip		The Unit has an "Overload" function that is an electronic equivalent to a thermal overload. On : The Unit will trip when the "Overload" capacity (ModbusPNU 33408) exceeds 100% Off: The Unit will continue to operate regardless of motor current level Range Off - On Default On Type Read/Write	53792
Advanced	Trip Settings	>>>>>>>>	Low Current Trip		This can be used to detect if the motor is running lightly loaded. On : The Unit will trip. This feature is not active during soft start and soft stop. Off: The Unit will continue to operate regardless of motor current Range Off - On Default Off Type Read/Write	53787
Advanced	Trip Settings	>>>>>>>>	Start Current Limit Trip		Selects trip or continue if the current limit has been active for too long On : The Unit will trip Off: The start will continue regardless of the motor current level Range Off - On Default On Type Read/Write	53790

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Advanced	Trip Settings	>>>>>>>>	Stop Current Limit Trip		Selects trip or continue if the stop current limit has been active for too long On : The Unit will trip Off: The stop will continue regardless of the motor current level Range Off - On Default Off Type Read/Write	53791
Advanced	Trip Settings	>>>>>>>>	PTC Motor Thermistor Trip		A single PTC motor thermistor or set of PTC motor thermistors can be connected to the PTC terminals. On :The Unit will trip if the motor thermistor exceed its response temperature or the PTC input is open circuit Off : The Unit will continue to operate. Range Off - On Default Off Type Read/Write	53794
Advanced	Trip Settings	>>>>>>>>	L1-L2-L3 Trip		Determines if supply phase sequence is incorrect for motor rotation On : Trips if the phase sequence is L1-L2-L3. Off : The Unit will continue to operate normally Range Off - On Default Off Type Read/Write	53808
Advanced	Trip Settings	>>>>>>>>	L1-L3-L2 Trip		Determines if supply phase sequence is incorrect for motor rotation On : Trips if the phase sequence is L1-L3-L2. Off : The Unit will continue to operate normally Range Off - On Default Off Type Read/Write	53807
Advanced	Trip Settings	>>>>>>>>	Remote Start Trip		For safety reasons the Unit will trip during some operations if the remote start signal is active On : Trips if the remote start signal is active when the Unit is powered up or a reset is applied. Off : The Unit will not trip and may start unexpectedly if the start signal is accidentally left active. Range Off - On Default On Type Read/Write	53804

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Advanced	Trip Settings	>>>>>>>>	Current Sensor Trip		Detects if the internal current sensors have failed or reading a very low level. On : The Unit will trip if the internal current sensors fail or the current measured falls to a very low level Off : Will continue to operate even if the sensor has failed. Measurements and overload protection may be effected Range Off - On Default Off Type Read/Write	53775
Advanced	Trip Settings	>>>>>>>>	Fan Trip		Detects if the cooling fans have failed. On : The Unit trips if the cooling fans fitted to the Unit fail. Off : Will continue to operate and is likely to trip on a thermal trip as the heatsink will not be sufficiently cooled Range Off - On Default On Type Read/Write	53782
Advanced	Trip Settings	>>>>>>>>	Communications Trip		Detects if the communications bus has failed or become inactive. To keep the bus active there must be at least one Modbus read or write (any PNU) during the "Timeout ms" period (ModbusPNU 15808) On :Communication trip enabled. Off : Communication trip disabled. Range Off - On Default On Type Read/Write	53796
Advanced	Trip Settings	>>>>>>>>	Shut Down (1)		This features controls the soft stop improve stability On : The stop time is truncated if the motor experiences severe torque fluctuations during the soft stop Off : The motor will stop in the set time. Range Off - On Default On Type Read/Write	53769
Advanced	Trip Settings	>>>>>>>>	Shut Down (2)		This features controls the soft stop improve stability On : The stop time is truncated if the motor experiences severe torque fluctuations during the soft stop Off : The motor will stop in the set time. Range Off - On Default On Type Read/Write	53770

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Advanced	Trip Settings	>>>>>>>>	Thyristor Firing Trip		Detects if there is a fault with one or more of the internal Thyristors or bypass relays On : Trips if one or more of the Thyristors / bypass relays has failed short circuit. ISOLATE SUPPLY. Check by measuring the resistance between L1 -T1 L2 -T2 L3 -T3 (Anything < 10R is assumed short circuit) Off : The Unit will attempt to start and run although the operation may be erratic. Operating in this mode for prolonged periods may result in SCR failure Range Off - On Default On Type Read/Write	53774
Advanced	Trip Settings	>>>>>>>>	Motor Side Phase Loss		Detects if there is a disconnection between the Unit output and the motor On : Trips if there is a disconnection between the output side of the Unit and the motor Off : The Unit will attempt to start and run although the operation may be erratic. Operating in this mode for prolonged periods may result in SCR failure Range Off - On Default On Type Read/Write	53777
Advanced	Trip Settings	>>>>>>>>	Sensing Fault Trip		Detects if there is a fault with operation of one or more of the internal Thyristors On : Trips if one or more of the Thyristors fails to turn on properly. Off : The Unit will attempt to start and run although the operation may be erratic. Operating in this mode for prolonged periods may result in SCR failure Range Off - On Default On Type Read/Write	53781
Advanced	Trip Settings	>>>>>>>>	Thermal Sensor Trip		Detects if the internal temperature sensor has malfunctioned On : The Unit will trip if the internal temperature sensor malfunctions Off : The Unit will continue to operate even if the temperature sensor has malfunctioned. Operating in this mode for prolonged periods may result in SCR failure Range Off - On Default On Type Read/Write	53768
Advanced	Trip Settings	>>>>>>>>	External Trip		Allows a trip to be forced using one of the digital inputs On : Trips when the programmed input is active Off : External Trip is disabled Range Off - On Default On Type Read/Write	53795

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Advanced	Trip Settings	>>>>>>>>	Operation 3 Trip		Detects if the Control Board has failed to operate normally On : Operation 3 trip enabled. Off : Operation 3 trip disabled. Range Off - On Default On Type Read/Write	53800
Advanced	Trip Settings	>>>>>>>>	Operation 1 Trip		Detects if the keypad Board has failed to operate normally On : Operation 1 trip enabled. Off : Operation 1 trip disabled. Range Off - On Default Off Type Read/Write	53798
Advanced	Trip Settings	>>>>>>>>	Operation 2 Trip		Detects if the logging function has failed to operate normally On : Operation 2 trip enabled. Off : Operation 2 trip disabled. Range Off - On Default Off Type Read/Write	53799
Advanced	Trip Settings	>>>>>>>>	Input Side Phase Loss		Detects if there is a disconnection between the Unit input and the supply when the motor is running. On : Trips if there is a disconnection between the input side of the Unit and the supply when the motor is running. Off : The Unit will attempt to run although the operation may be erratic. Operating in this mode for prolonged periods may result in SCR failure Range Off - On Default On Type Read/Write	53762
Advanced	>>>>>>>>	>>>>>>>>	Firing Mode		Set to correspond with Unit connection to the Motor. Refer to connection diagrams in the Quick Start Guide. In-Line : The Unit is connected in-line with a delta or star connected motor. In-Delta : The Unit is connected inside the Delta of the motor. The iERS function is disabled Range In-Line - In-Delta Default In-Line Type Read/Write	128

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Advanced	>>>>>>>>	>>>>>>>>	Legacy Delta Mode		Allows the Unit to be retro-fitted into "Delta" applications that previously used QFE / XFE (5MC) On : Operates in QFE / XFE (5MC) delta compatibility mode. Off : Operates normally. Refer to Unit Delta connection diagram in the Quick Start Guide. Range Off - On Default Off Type Read/Write	192
Advanced	>>>>>>>>	>>>>>>>>	Main Contactor Control		The unit is configured to start and stop when the main contactor opens and closes. On : When a zero stop time is set some faults will be ignored when main conatctor opens Off : The unit may trip when the main contcator opens Range Off - On Default Off Type Read/Write	14144

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I/O					The digital inputs D1-1I D1-2I D2-1I are designed to work with a range of control supplies 230V : 'Active high level' Input voltage must be in the range 195.5V - 253V 110V : 'Active high level' Input voltage must be in the range 93.5V - 121V 24V : 'Active high level ' input voltage must be in the range 20.4V-26.4V It is important to ensure the "Digital input Voltage" corresponds to the voltage applied to the input. Failure to do so may result in damage.	10880
I/O	Digital Inputs	>>>>>>>>	Digital Input Voltage		Range 230V - 24VDC Default 230V Type Read/Write	
I/O					Local Touch Screen : Control using the button on the keypad User Programmable : Control using the terminals. Function defined in "I/O" menu Two Wire Control : Control using terminals. Functions fixed as shown on screen Three Wire Control : Control using terminals. Functions fixed as shown on screen Modbus Network : Control via remote Modbus network or remote Keypad or Modbus TCP	59392
I/O	Digital Inputs	>>>>>>>>	Control Method		Range Local Touch Screen - Modbus Network Default Local Touch Screen Type Read/Write	
I/O					Allows the Digital input (D1-1I) to be mapped to different functions The selected function will change in proportion with the input Digital inputs can only be mapped if the "Control Method" is set to "User Programmable"	10944
I/O	Digital Inputs	Digital Input 1 (D1-1I)	Select Function		Range Off - End of list Default Start/Stop Type Read/Write	
I/O					Allows the polarity of the input to be reversed On : When the input is on the selected function will be on. Off : When the input is off the selected function will be on.	11264
I/O	Digital Inputs	Digital Input 1 (D1-1I)	High Input = 1 Sets Value		Range Off - On Default On Type Read/Write	
I/O					Allows the Digital input (D1-2I) to be mapped to different functions The selected function will change in proportion with the input Digital inputs can only be mapped if the "Control Method" is set to "User Programmable"	10945
I/O	Digital Inputs	Digital Input 2 (D1-2I)	Select Function		Range Off - End of list Default Off Type Read/Write	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
I/O	Digital Inputs	Digital Input 2 (D1-2I)	High Input = 1 Sets Value		Allows the polarity of the input to be reversed On : When the input is on the selected function will be on. Off : When the input is off the selected function will be on. Range Off - On Default On Type Read/Write	11266
I/O	Digital Inputs	Digital Input 3 (D2-1I)	Select Function		Allows the Digital input (D2-1I) to be mapped to different functions The selected function will change in proportion with the input Digital inputs can only be mapped if the "Control Method" is set to "User Programmable" Range Off - End of list Default Reset Type Read/Write	10946
I/O	Digital Inputs	Digital Input 3 (D2-1I)	High Input = 1 Sets Value		Allows the polarity of the input to be reversed On : When the input is on the selected function will be on. Off : When the input is off the selected function will be on. Range Off - On Default On Type Read/Write	11268
I/O	Digital Outputs	Digital Output 1 N/C(12)	Select Function		Allows the Digital output (N/C (12)) to be mapped to different functions The output will change in proportion with the selected output Range Off - End of list Default Error Type Read/Write	11584
I/O	Digital Outputs	Digital Output 1 N/C(12)	High Output = 1 When Value		Allows the polarity of the output to be reversed On : When the selected function is on the output will be on. Off : When the selected function is on the output is off Range Off - On Default On Type Read/Write	11904

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
I/O	Digital Outputs	Digital Output 2 N/O(24)	Select Function		Allows the Digital output (N/O (24)) to be mapped to different functions The output will change in proportion with the selected output Range Off - End of list Default Error Type Read/Write	11585
I/O	Digital Outputs	Digital Output 2 N/O(24)	High Output = 1 When Value		Allows the polarity of the output to be reversed On : When the selected function is on the output will be on. Off : When the selected function is on the output is off Range Off - On Default On Type Read/Write	11906
I/O	Digital Outputs	Digital Output 3 N/O(34)	Select Function		Allows the Digital output (N/O (34)) to be mapped to different functions The output will change in proportion with the selected output Range Off - End of list Default Running Type Read/Write	11586
I/O	Digital Outputs	Digital Output 3 N/O(34)	High Output = 1 When Value		Allows the polarity of the output to be reversed On : When the selected function is on the output will be on. Off : When the selected function is on the output is off Range Off - On Default On Type Read/Write	11908
I/O	Digital Outputs	Digital Output 4 N/O(44)	Select Function		Allows the Digital output (N/O (44)) to be mapped to different functions The output will change in proportion with the selected output Range Off - End of list Default End Of Start Type Read/Write	11587

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
I/O	Digital Outputs	Digital Output 4 N/O(44)	High Output = 1 When Value		Allows the polarity of the output to be reversed On : When the selected function is on the output will be on. Off : When the selected function is on the output is off Range Off - On Default On Type Read/Write	11910
I/O	Analogue Inputs	>>>>>>>>	Analogue Input Type		Defines the function of the analogue input (AI) 0-10V : The input voltage varies from 0-10V 4-20mA : The input varies from 4 to 20mA Range 0 - 10V - 4 - 20mA Default 0 - 10V Type Read/Write	9600
I/O	Analogue Inputs	>>>>>>>>	Select Function		Allows the Analogue input to be mapped to different functions The selected function will change in proportion with the input By default the function will be at its maximum when the input is at its maximum Range Off - End of list Default Off Type Read/Write	9664
I/O	Analogue Inputs	>>>>>>>>	Scaling Level		Allows the selected function to be scaled The selected function will change in proportion with the input The function will be at its "Scaling Level" when the input is at its maximum Range 0 % - Max value % Default Max value % Type Read/Write	9728
I/O	Analogue Outputs	>>>>>>>>	Analogue Output Type		Defines the physical function of the analogue output (AO) 0-10V : The output voltage varies from 0 to 10V 4-20mA : The output current varies from 4 to 20mA Range 0 - 10V - 4 - 20mA Default 0 - 10V Type Read/Write	8960

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
I/O	Analogue Outputs	>>>>>>>>	Select Function		Allows the Analogue output to be mapped to different PNU functions The output will change in proportion with the selected function By default the output will be at a maximum when the selected function equals its maximum value Range Off - End of list Default Off Type Read/Write	9024
I/O	Analogue Outputs	>>>>>>>>	Scaling Level		Allows the selected function to be scaled The output will change in proportion with the selected function The output will be at a maximum when the selected function equals the "Scaling Level" Range 0 % - Max value % Default 0 % Type Read/Write	9088
I/O	>>>>>>>>	>>>>>>>>	PTC Motor Thermistor Trip		A single PTC motor thermistor or set of PTC motor thermistors can be connected to the PTC terminals. On :The Unit will trip if the motor thermistor exceed its response temperature or the PTC input is open circuit Off : The Unit will continue to operate. Range Off - On Default Off Type Read/Write	53794

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Monitor					The frequency of the 3-phase supply	32000
Monitor	>>>>>>>>	>>>>>>>>	Line Frequency		Range 45 Hz - 65 Hz Default - Hz Type Read Only	
Monitor					Indicates the phase sequence of the incoming supply. RYB = L1-L2-L3 RBY = L1-L3-L2	32064
Monitor	>>>>>>>>	>>>>>>>>	Phase Rotation		Range L1-L2-L3 - L1-L3-L2 Default L1-L2-L3 Type Read Only	
Monitor					The RMS current on phase L1	33536
Monitor	>>>>>>>>	>>>>>>>>	I1		Range 0 A - 10000 A Default 0 A Type Read Only	
Monitor					The RMS current on phase L2	33538
Monitor	>>>>>>>>	>>>>>>>>	I2		Range 0 A - 10000 A Default 0 A Type Read Only	
Monitor					The RMS current on phase L3	33540
Monitor	>>>>>>>>	>>>>>>>>	I3		Range 0 A - 10000 A Default 0 A Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Monitor	>>>>>>>>	>>>>>>>>	Current Irms		The RMS motor current This is the maximum of the 3 phases. This value is used for the overload and power calculations Range 0 A - 10000 A Default 0 A Type Read Only	32896
Monitor	>>>>>>>>	>>>>>>>>	True Power Factor		The True Power Factor The True Power Factor = (Displacement Power Factor x Distortion Power Factor) Range 0 - 1 Default 0 Type Read Only	33024
Monitor	>>>>>>>>	>>>>>>>>	True Power P		Total true power This is an addition of the 3 phases Range 0 kW - 10000 kW Default 0 kW Type Read Only	34688
Monitor	>>>>>>>>	>>>>>>>>	Apparent Power S		Total Apparent Power This is an addition of the 3 phases Range 0 kVA - 10000 kVA Default 0 kVA Type Read Only	34816
Monitor	>>>>>>>>	>>>>>>>>	Reactive Power Q		Total Reactive power This is an addition of the 3 phases Range 0 kvar - 10000 kvar Default 0 kvar Type Read Only	34944

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Monitor	>>>>>>>>	>>>>>>>>	iERS Saving Level		Indicates the level of potential saving 100% indicates that Unit is saving at its maximum level Range 0 % - 100 % Default 0 % Type Read Only	35008
Monitor	>>>>>>>>	>>>>>>>>	Delay Angle		Internal firing delay angle in Degrees Displayed for diagnostic purposes Range 0 Degrees - 60 Degrees Default 0 Degrees Type Read Only	22400
Monitor	>>>>>>>>	>>>>>>>>	BackStop		The maximum possible Delay angle for the current iERS saving phase Displayed for diagnostic purposes May decrease during heavy load periods or instability Range 0 Degrees - 55 Degrees Default 0 Degrees Type Read Only	23040
Monitor	>>>>>>>>	>>>>>>>>	Delay Max		The maximum possible delay for iERS saving Displayed for diagnostic purposes Range 0 Degrees - 55 Degrees Default 0 Degrees Type Read Only	22464
Monitor	>>>>>>>>	>>>>>>>>	Pres PF Degrees		The Present Power Factor used by the iERS saving function This is the actual Power Factor for the iERS saving function. The "Delay" is constantly adjusted to minimise the control loop error between "Pres PF Degrees" and "Ref PF Degrees" The parameter displays the displacement part of the True Power Factor and is used for diagnostic purposes. Range 0 Degrees - 90 Degrees Default 0 Degrees Type Read Only	21824

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Monitor	>>>>>>>>	>>>>>>>>	Ref PF Degrees		The Reference Power Factor used by the iERS saving function This is the target Power Factor for the iERS saving function. The parameter will change dynamically dependant on motor operation The parameter displays the displacement part of the True Power Factor and is used for diagnostic purposes. Range 0 Degrees - 90 Degrees Default 0 Degrees Type Read Only	21760
Monitor	>>>>>>>>	>>>>>>>>	Start Saving Level		The current in Amps at which the iERS is enabled or disabled. The iERS function is active when the motor current is less than the "Start Saving Level" When the iERS function is disabled internal bypass relays close to improve efficiency. Range 50% I-motor - 80% I-motor Default 80% I-motor Type Read Only	21320
Monitor	>>>>>>>>	>>>>>>>>	Last Peak Current		Displays the peak current of the last successful start. Range 0 A - 10000 A Default 0 A Type Read Only	38400
Monitor	>>>>>>>>	>>>>>>>>	HeatSink Temp		The temperature of the internal Unit heatsink. The Unit will trip when the heatsink temperature exceeds 80°C. The internal cooling fans will turn on if this temperature exceeds 40°C Range -20 °C - 80 °C Default °C Type Read Only	36544
Monitor	>>>>>>>>	>>>>>>>>	Motor Thermistor		Indicates the state of the Unit PTC input. Designed for single or double or triple PTC in series PTC thermistor standards DIN44081 / EN60738-1 apply (< 300R @ 25°C. Typically 4K @ nominal temperature) The value indicated is a not in degrees Celsius but is an internal representation. At 25°C the value displayed should be less than 100 and the Unit trips when value > 400 (open circuit = 1024) The value will increase rapidly when the motor thermistors approach their nominal temperature. If thermistors are connected the "Thermistor trip" should be turned "on" Range 0 - 1024 Default 1024 Type Read Only	10432

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Monitor >>>>>>>> >>>>>>>> Overload					The Unit has an "Overload" function that is an electronic equivalent to a thermal overload. "Overload" displays the overload capacity which is a measure of how close the Unit to tripping on "Overload Trip" When "Current Irms" is greater than the "Overload Level" the "Overload" increases in accordance with the "Trip Class". When "Current Irms" is less than "Overload Level" the "Overload" decreases exponentially (if greater than 50%) When the "Overload" reaches 100% the Unit will trip. During situations when (i-motor) is equal to (i-Unit) the overload will indicate 50% Range 0 % - 100 % Default 0 % Type Read Only	33408

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log					Displays the last Fault trip	
Log	Trip Log	>>>>>>>>	Last Trip		Range 0 - 65535 Default 0 Type Read Only	60608
Log					Displays the last Fault trip -1	
Log	Trip Log	>>>>>>>>	Last Trip -1		Range 0 - 65535 Default 0 Type Read Only	60609
Log					Displays the last Fault trip -2	
Log	Trip Log	>>>>>>>>	Last Trip -2		Range 0 - 65535 Default 0 Type Read Only	60610
Log					Displays the last Fault trip -3	
Log	Trip Log	>>>>>>>>	Last Trip -3		Range 0 - 65535 Default 0 Type Read Only	60611
Log					Displays the last Fault trip -4	
Log	Trip Log	>>>>>>>>	Last Trip -4		Range 0 - 65535 Default 0 Type Read Only	60612

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log Trip Log >>>>>>>> Last Trip -5				Displays the last Fault trip -5		60613
Range		0 - 65535	Default	0	Type	
Log Trip Log >>>>>>>> Last Trip -6				Displays the last Fault trip -6		60614
Range		0 - 65535	Default	0	Type	
Log Trip Log >>>>>>>> Last Trip -7				Displays the last Fault trip -7		60615
Range		0 - 65535	Default	0	Type	
Log Trip Log >>>>>>>> Last Trip -8				Displays the last Fault trip -8		60616
Range		0 - 65535	Default	0	Type	
Log Trip Log >>>>>>>> Last Trip -9				Displays the last Fault trip -9		60617
Range		0 - 65535	Default	0	Type	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log	Trip Log	Trip Code Descriptions	101 Input Side Phase Loss		Phase L1 missing at the instant of start up. The L1 phase is either missing or at a very low level Check all incoming connections. If a main contactor is being controlled by a digital output set to "Running" check contactor delay is sufficient Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	102 Input Side Phase Loss		Phase L2 missing at the instant of start up The L2 phase is either missing or at a very low level Check all incoming connections. If a main contactor is being controlled by a digital output set to "Running" check contactor delay is sufficient Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	103 Input Side Phase Loss		Phase L3 missing at the instant of start up The L3 phase is either missing or at a very low level Check all incoming connections. If a main contactor is being controlled by a digital output set to "Running" check contactor delay is sufficient Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	104 - 117 Input Side Phase Loss		Any or all phases missing when the motor is being controlled L1 L2 or L3 phase are missing or at a very low level. Check all incoming connections. Check any fuses / breakers incorporated in the power circuit Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	201 Maximum Temp. Exceeded		Internal heatsink temperature has exceeded 90°C It is possible the Unit is operating outside specified limits. Check enclosure ventilation and airflow around the Unit. If the unit trips immediately the internal temperature sensor could be faulty. Range - Default Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log	Trip Log	Trip Code Descriptions	208 Thermal Sensor Trip		Thermal sensor Failure The internal temperature sensor has failed Contact the supplier Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	301-308 Thyristor Firing Trip		One or more of the internal control thyristors (SCRs) have failed to turn on properly. (In-Line "Firing Mode") The Unit has detected that the SCRs are not operating as expected. Check all incoming and outgoing connections. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	350-358 Thyristor Firing Trip		One or more of the internal control thyristors (SCRs) have failed to turn on properly. (Delta "Firing Mode") The Unit has detected that the SCRs are not operating as expected. Check all incoming and outgoing connections. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	401 Motor Side Phase Loss		One or all of the phases are missing on the motor side during the instant of start up T1 T2 or T3 phase are missing or at a very low level. Check that the motor is connected to T1 T2 and T3. Ensure any disconnecting device between the Unit and the motor is closed at the instant of start up. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	402-403 Motor Side Phase Loss		One or all of the phases are missing on the motor side during the instant of start up when the motor being controlled T1 T2 or T3 phase are missing or at a very low level. Check all incoming and outgoing connections. Range - Default Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log	Trip Log	Trip Code Descriptions	601 Control Voltage Too Low		The internal control supply of the Unit level has fallen to a low level Can be caused by a weak 24VDC control supply. Ensure 24VDC supply meets the requirements specified in the Quick Start Guide. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	701-710 Sensing Fault Trip		One or more of the internal control thyristors (SCRs) have failed to turn on properly. The Unit has detected that the SCRs are not operating as expected. Check connections all incoming and outgoing connections. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	801-802 Fan Problem		One or more of the internal cooling fans has failed To ensure the heatsink is cooled sufficiently the Unit Will trip if the fans fail to operate Check Unit fans for signs of damage or contamination Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1001 Short Circuit Thyristor		One or more of the internal control thyristors (SCRs) have failed short circuit The Unit has detected that the SCRs are not operating as expected. ISOLATE SUPPLY. Check by measuring the resistance between L1-T1 L2-T2 L3-T3 (Anything < 10R is assumed short circuit) Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1101 Low Current Trip		The motor current has been lower than the low trip level for the low trip time This trip is not active during soft start and soft stop and is "off" by default. If the low current trip is not required turn "off" in "Trip Settings". Range - Default Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log	Trip Log	Trip Code Descriptions	1201 Current Limit Timeout Trip		The motor has been held in current limit longer than the "Start current limit Time" It is likely that the current limit level has been set too low for the application. Increase the current limit level or timeout period. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1202 Current Limit Timeout Trip		The motor has been held in current limit longer than the "Stop current limit Time" It is likely that the current limit level has been set too low for the application. Increase the current limit level or timeout period. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1301 Overload Trip		The "Overload" has exceeded 100% The Unit is attempting to start an application that is outside its capacity or it is starting too often. Refer to the overload trip curves to determine whether the Unit has been sized correctly. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1302 Overload Trip		The motor current has exceeded 475% (i-Unit) for a time greater than 250ms The Unit is attempting to start an application that is outside its capacity with a "high current limit level" set Refer to the overload trip curves to determine whether the Unit has been sized correctly and check current limit level. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1401 Shearpin Trip		The motor current has been higher than the "Shearpin Trip Level" for the trip time. This trip is not active during soft start and soft stop and is "off" by default. If Shearpin trip is not required turn "off" in "Trip Settings". Range - Default Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log	Trip Log	Trip Code Descriptions	1501 PTC Thermistor Trip		The PTC thermistor value has exceed the trip level. The PTC thermistor connected to the PTC input has exceeded it response temperature or the PTC input is open circuit. If the PTC TRIP is not required turn "off" in "Trip Settings". Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1601 External Trip		External Trip The input programmed to External Trip is active If the External trip is not required turn "off" in "Trip settings" Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1701 Communications Trip		Communications failure The command or status PNU has not ben polled in the time set in the "Timeout" period If the communication trip is disabled the Unit cannot be stopped in the communications fail Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1801-1802 Bypass Relay Trip		One or more of the internal bypass relays has failed to close The internal bypass relay has failed or the control supply is to weak. Ensure 24VDC supply meets the requirements specified in the Quick Start Guide. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	1803 Bypass Relay Trip		One or more of the internal bypass relays has failed to open The internal bypass relay has failed or the control supply is too weak. Ensure 24VDC supply meets the requirements specified in the Quick Start Guide. Range - Default Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log	Trip Log	Trip Code Descriptions	1901 Cover Open, Close to Enable Motor Start		The Unit cover is open The cover is open or not closed properly Close Cover or if Cover trip is not required turn off in "Trip Settings" Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	2001-2003 Remote Start is Enabled		The remote start signal is active. The remote start signal was active during power up or Reset or Parameter Load. Turn off remote or if Remote On trip is not required turn "off" in "Trip Settings" Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	2101 Rotation L1 L2 L3 Trip		The input phase rotation is RYB (L1-L2-L3) The phase rotation is opposite to that required. Change phase rotation or if "RYB" trip is not required turn "off" in trip settings. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	2102 Rotation L1 L3 L2 Trip		The input phase rotation is RBY (L1-L3-L2) The phase rotation is opposite to that required. Change phase rotation or if "RBY" trip is not required turn "off" in trip settings. Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	2201-2299 2701-2799 MPU Trip		Internal Unit Failure The Unit has failed internally and is unable to recover automatically. Cycle the control supply. If the fault is not cleared then contact the supplier Range - Default Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log	Trip Log	Trip Code Descriptions	2301-2303 Current Sensor Trip		Current sensor failure One or more of the internal sensors used to measure current has failed or is reading a low value. Check the connections to the supply and motor as disconnection will result in a zero current reading. Check the plate FLA of the motor being controlled is at least 25% of the "i-motor" rating Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	2401-2499 Operation 3 Trip		Fail Safe operation A process associated with the Control Board has been affected and is unable to recover automatically The trip MUST be reset by either the digital input or keypad or the bus command depending on the control method set. This trip is a special case and it is NOT possible to reset this trip by cycling the control supply Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	2501-2599 Operation 1 Trip		Fail Safe operation A process associated with the Keypad board has been affected and is unable to recover automatically The trip can be reset by either the digital input or keypad or the bus command depending on the control method set. It is also possible to reset this trip by cycling the control supply Range - Default Type Read Only	
Log	Trip Log	Trip Code Descriptions	2601-2699 Operation 2 Trip		Fail Safe operation A process associated with the Logging function has been affected and is unable to recover automatically The trip can be reset by either the digital input or keypad or the bus command depending on the control method set. It is also possible to reset this trip by cycling the control supply Range - Default Type Read Only	
Log	Trip Log	>>>>>>>>	Last Peak Current		Displays the peak current of the last successful start. Range 0 A - 10000 A Default 0 A Type Read Only	38400

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Log Trip Log >>>>>>>> Last peak start current -1				Displays the peak current of the last successful start -1		38402
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak start current -2				Displays the peak current of the last successful start -2		38404
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak start current -3				Displays the peak current of the last successful start -3		38406
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak start current -4				Displays the peak current of the last successful start -4		38408
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak start current -5				Displays the peak current of the last successful start -5		38410
				Range	0 A - 10000 A Default 0 A Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log Trip Log >>>>>>>> Last peak start current -6				Displays the peak current of the last successful start -6		38412
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak start current -7				Displays the peak current of the last successful start -7		38414
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak start current -8				Displays the peak current of the last successful start -8		38416
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak start current -9				Displays the peak current of the last successful start -9		38418
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak stop current				Displays the peak current of the last successful stop		39040
				Range	0 A - 10000 A Default 0 A Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log Trip Log >>>>>>>> Last peak stop current -1				Displays the peak current of the last successful stop -1		39042
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak stop current -2				Displays the peak current of the last successful stop -2		39044
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak stop current -3				Displays the peak current of the last successful stop -3		39046
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak stop current -4				Displays the peak current of the last successful stop -4		39048
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak stop current -5				Displays the peak current of the last successful stop -5		39050
				Range	0 A - 10000 A Default 0 A Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log Trip Log >>>>>>>> Last peak stop current -6				Displays the peak current of the last successful stop -6		39052
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak stop current -7				Displays the peak current of the last successful stop -7		39054
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak stop current -8				Displays the peak current of the last successful stop -8		39056
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last peak stop current -9				Displays the peak current of the last successful stop -9		39058
				Range	0 A - 10000 A Default 0 A Type Read Only	
Log Trip Log >>>>>>>> Last temperature				Displays the heatsink temperature at the end of the last successful start		39680
				Range	-20 °C - 80 °C Default °C Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log Trip Log >>>>>>>> Last temperature - 1				Displays the heatsink temperature at the end of the last successful start -1		39681
Range -20 °C - 80 °C				Default °C	Type Read Only	
Log Trip Log >>>>>>>> Last temperature - 2				Displays the heatsink temperature at the end of the last successful start -2		39682
Range -20 °C - 80 °C				Default °C	Type Read Only	
Log Trip Log >>>>>>>> Last temperature - 3				Displays the heatsink temperature at the end of the last successful start-3		39683
Range -20 °C - 80 °C				Default °C	Type Read Only	
Log Trip Log >>>>>>>> Last temperature - 4				Displays the heatsink temperature at the end of the last successful start-4		39684
Range -20 °C - 80 °C				Default °C	Type Read Only	
Log Trip Log >>>>>>>> Last temperature - 5				Displays the heatsink temperature at the end of the last successful start-5		39685
Range -20 °C - 80 °C				Default °C	Type Read Only	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log	Trip Log	>>>>>>>>	Last temperature 6		Displays the heatsink temperature at the end of the last successful start-6 Range -20 °C - 80 °C Default °C Type Read Only	39686
Log	Trip Log	>>>>>>>>	Last temperature 7		Displays the heatsink temperature at the end of the last successful start-7 Range -20 °C - 80 °C Default °C Type Read Only	39687
Log	Trip Log	>>>>>>>>	Last temperature 8		Displays the heatsink temperature at the end of the last successful start-8 Range -20 °C - 80 °C Default °C Type Read Only	39688
Log	Trip Log	>>>>>>>>	Last temperature 9		Displays the heatsink temperature at the end of the last successful start-9 Range -20 °C - 80 °C Default °C Type Read Only	39689
Log	Trip Log	>>>>>>>>	Last overload		Displays the overload level at the end of the last successful start Range 0 % - 100 % Default 0 % Type Read Only	40320

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU	
Log Trip Log >>>>>>>> Last overload-1				Displays the overload level at the end of the last successful start -1		40321	
Range		0 % - 100 %		Default	0 %		Type
Log Trip Log >>>>>>>> Last overload-2				Displays the overload level at the end of the last successful start -2		40322	
Range		0 % - 100 %		Default	0 %		Type
Log Trip Log >>>>>>>> Last overload-3				Displays the overload level at the end of the last successful start -3		40323	
Range		0 % - 100 %		Default	0 %		Type
Log Trip Log >>>>>>>> Last overload-4				Displays the overload level at the end of the last successful start -4		40324	
Range		0 % - 100 %		Default	0 %		Type
Log Trip Log >>>>>>>> Last overload-5				Displays the overload level at the end of the last successful start -5		40325	
Range		0 % - 100 %		Default	0 %		Type

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]		Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log Trip Log >>>>>>>> Last overload-6			Displays the overload level at the end of the last successful start -6 Range 0 % - 100 % Default 0 % Type Read Only	40326
Log Trip Log >>>>>>>> Last overload-7			Displays the overload level at the end of the last successful start -7 Range 0 % - 100 % Default 0 % Type Read Only	40327
Log Trip Log >>>>>>>> Last overload-8			Displays the overload level at the end of the last successful start -8 Range 0 % - 100 % Default 0 % Type Read Only	40328
Log Trip Log >>>>>>>> Last overload-9			Displays the overload level at the end of the last successful start -9 Range 0 % - 100 % Default 0 % Type Read Only	40329
Log Totals Log >>>>>>>> Number of Starts			The total number of successful starts Range 0 - 4294836225 Default 0 Type Read Only	35840

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Log >>>>>>>> >>>>>>>> Download Log File					Download the full log file on to the USB stick The Unit logs several parameters during normal and fault conditions Data is stored in CSV format. Please send all downloaded files to Fairford on request Range - Default Type Read/Write	
Log >>>>>>>> >>>>>>>> Clear Trip Log					Deletes all of the history in the Trip Log Range No - Yes Default No Type Read/Write	62081

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Device					Used to upgrade to the latest version of software using a USB stick Details for the upgrading process are supplied with the updated version of software	
Device	>>>>>>>>	>>>>>>>>	Update Firmware		Range - Default Type Read/Write	
Device					Enter current date Date format can be set to either dd/mm/yyyy or mm/dd/yyyy. Refer to "Date format" parameter.	
Device	>>>>>>>>	>>>>>>>>	Date		Range - Default Type Read/Write	
Device					Allows the time to be changed to 'local' time By default the time is set to GMT	14720
Device	>>>>>>>>	>>>>>>>>	Time		Range - hh:mm:ss - - hh:mm:ss Default GMT time hh:mm:ss Type Read/Write	
Device					Selects the display language for the keypad Enter the required language from the displayed list	13376
Device	>>>>>>>>	>>>>>>>>	Language		Range English - End of list Default English Type Read/Write	
Device					Stops unauthorised access to read/ write parameters For the passcode be active the "Screen lock" must be turned on	12864
Device	>>>>>>>>	>>>>>>>>	Passcode		Range 0 - Max Value Default 0 Type Read/Write	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
					Time for backlight on display After the period set the back light on the screen will turn off To reactivate touch screen anywhere. To disable set to 0	14208
Device	>>>>>>>>	>>>>>>>>	Backlight Timeout		Range 0 s - 3600 s Default 60 s Type Read/Write	
					Sets the Modbus station number	16000
Device	Networks	Modbus Network Settings	Address		Range 1 - 32 Default 1 Type Read/Write	
					Sets the serial communications baud rate The available baud rates are 9600 19200 38400 57600 or 115200	16064
Device	Networks	Modbus Network Settings	Baud Rate		Range 9600 - 115200 Default 19200 Type Read/Write	
					Sets the serial communications parity bit The available parity options are None Even Odd Also sets the stop bits. No parity uses 2 stop bits. Odd or even parity uses 1 stop bit	16128
Device	Networks	Modbus Network Settings	Parity		Range None - Odd Default Even Type Read/Write	
					Allows the user to check the state of the modbus communication network. Red LED receive. Green LED Transmit. On : The Red and Green LEDS display the traffic on the Modbus communications network Off : The Red and Green LEDs display the Unit status information	14080
Device	Networks	Modbus Network Settings	Traffic LEDS		Range Off - On Default Off Type Read/Write	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU	
Device Networks >>>>>>>> Anybus				Anybus expansion module Only active with Anybus module fitted Range - Default Type Read Only		15808	
Device Networks >>>>>>>> Timeout ms				Communications trip Timeout period To prevent a 'Communications Trip' (If enabled) the bus must be kept active. To keep the bus active there must be at least one Modbus read or write (any PNU) during the "Timeout ms" period Range 0 ms - 60000 ms Default 5000 ms Type Read/Write			
Device >>>>>>>> >>>>>>>> Reset Defaults				Restores the Unit to the factory defaults Range No - Yes Default No Type Read/Write			62080
Device >>>>>>>> >>>>>>>> About				Gives the Model number. Serial Number and current software versions The software versions are SGY1xxxxxx SGY2xxxxxx and SGY3xxxxxx. Range - Default Type Read Only			
Device >>>>>>>> >>>>>>>> Screen Lock				Stops unauthorised access to read/ write parameters Range Off - On Default Off Type Read/Write		12992	

SWI-SGY-USB-V05700 [SGY1051400 SGY2070000 SGY3023400]				Parameter	Description Text in quotes refer to a Synergy parameter or function, for example "Start Time" i-synergy = synergy Class 10 current, i-rated = synergy Class20 / Class30 current, i-motor = motor current	Modbus PNU
Device	>>>>>>>>	>>>>>>>>	Date Format		Allows the date format to be changed dd/mm/yyyy or mm/dd/yyyy Range dd/mm/yyyy - mm/dd/yyyy Default dd/mm/yyyy Type Read/Write	13248
Device	>>>>>>>>	>>>>>>>>	Temperature Format		Selects °C or °F for displayed temperatures °C : All displayed temperatures are °C °F : All displayed temperatures are °F Range °C - °F Default °C Type Read/Write	13312
Device	>>>>>>>>	>>>>>>>>	Parameters to USB		Allows the user to save parameters Downloads the parameters from the Unit to the USB drive Data is stored in CSV format. Range No - Yes Default No Type Read/Write	62272
Device	>>>>>>>>	>>>>>>>>	Parameters from USB		Allows the user to load parameters stored on a USB flash drive Uploads the parameters from the USB drive to the Unit Data is stored in CSV format. Range No - Yes Default No Type Read/Write	62336
Device	>>>>>>>>	>>>>>>>>	Service Code		Diagnostic parameter For Fairford use only Range - Default Type	13120