

FUSION / COMPACT FUSION PARAMETER LIST



FUSION controllers contain nonvolatile EEPROMs, and writing too frequently to an individual parameter may wear out the EEPROM and cause the controller to fail.

Control Concepts recommends allowing an average of five minutes between consecutive writes to an individual parameter within the range of 1-199, with the exception of digital setpoint commands 100-107 and the digital system command 129. Digital setpoints and digital system command may be written continually.

EU = Engineering Units

SP 1 Feedback Type Zone 1

Units:	N/A
Minimum:	1
Maximum:	7
Default:	1
Selections:	1 = RMS Voltage 2 = AVG Voltage 3 = RMS Current 4 = AVG Current 5 = Real Power 6 = External (Uses the Analog Setpoint 2 input) 7 = Apparent Power

SP 2 Firing Mode Zone 1

Units:	N/A
Minimum:	1
Maximum:	4
Default:	1 or 3 - Model number dependent
Selections:	1 = Zero Cross 2 = Zero Cross Burst 3 = Phase Angle 4 = Zero Cross Transformer (ZCT) Mode

SP 3 Control Loop Zone 1

Units:	N/A
Minimum:	0
Maximum:	1
Default:	1
Selections:	0 = Open Loop 1 = Closed Loop

SP 4 Ramp Time Zone 1

Units:	Seconds
Decimal Places:	0
	EU/Register Value
Minimum:	0
Maximum:	120
Default:	0

SP 5 Slew Rate Zone 1 (Control Response Factor)

Units:	N/A
Decimal Places:	0
	EU/Register Value
Minimum:	50
Maximum:	2000
Default:	500

SP 6 Burst Start Angle Zone 1

Units:	Degrees
Decimal Places:	0
	EU/Register Value
Minimum:	15
Maximum:	150
Default:	90

SP 7 Phase Angle to ZC Switch Threshold Zone 1

Units:	AC Line Cycles
Decimal Places:	0
	EU/Register Value
Minimum:	5
Maximum:	20
Default:	6

SP 8 Full Scale Voltage Zone 1

Units:	Volts	
Decimal Places:	1	
	EU	Register Value
Minimum:	5.0	50
Maximum:	850.0	8500
Default:	480.0	4800

SP 9 Full Scale Current Zone 1

Units: Amps
 Decimal Places: 1
 EU Register Value
 Minimum: 1.0 10
 Maximum: 1680.0 16800
 Default: Frame Rating

SP 10 Full Scale Power Zone 1

Units: kW
 Decimal Places: 1
 EU Register Value
 Minimum: 0.1 1
 Maximum: 1440.0 14400
 Default: Calculated based on Full Scale Voltage (SP8) and Current (SP9) and type of controller

SP 11 Voltage Limit Zone 1

Units: Volts (RMS or AVG)
 Decimal Places: 1
 EU Register Value
 Minimum: 4.0 40
 Maximum: 925.0 9250
 Default: 630.0 6300

SP 12 Current Limit Zone 1

Units: Amps (RMS or AVG)
 Decimal Places: 1
 EU Register Value
 Minimum: 2.0 20
 Maximum: 105% Frame Rating
 Default: 105% Frame Rating

SP 13 Current Limit Type Zone 1

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 1
 Selections: 1 = RMS
 2 = AVG

SP 14 Current Trip Zone 1

Units: Amps RMS
 Decimal Places: 0
 EU/Register Value
 Minimum: 50% Frame Rating
 Maximum: 450% Frame Rating
 Default: For Firing Mode (SP 2) set to 1 (Zero Cross) = 400% Frame Rating
 For Firing Mode (SP 2) set to 3 (Phase Angle) = 175% Frame Rating

SP 15 Power Limit Zone 1

Units: kW
 Decimal Places: 1
 EU Register Value
 Minimum: 0.1 1
 Maximum: 1512.0 15120
 Default: 1512.0 15120

SP 16 Relay 1 Alarm Mask Zone 1

Units:	N/A	
	Binary	Decimal
Minimum:	0000_0000_0000_0000	0
Maximum:	1111_1111_1111_1111	65535
Default:	0110_0000_0000_0000	24576

Bit Definitions:

- 15 = TBD
- 14 = Heatsink Over Temp
- 13 = Current Trip
- 12 = Heatsink Warning Temp
- 11 = AC Line Phase Loss
- 10 = Shorted SCR
- 9 = Power Limit
- 8 = Current Limit
- 7 = Voltage Limit
- 6 = Digital Run Enable
- 5 = In "Run" State
- 4 = 3 Phase Load Imbalance
- 3 = Low Output
- 2 = TBD
- 1 = TBD
- 0 = TBD

SP 17 Relay 2 Alarm Mask Zone 1

Units:	N/A	
	Binary	Decimal
Minimum:	0000_0000_0000_0000	0
Maximum:	1111_1111_1111_1111	65535
Default:	0001_0100_0000_0000	5120

Bit Definitions:

- 15 = TBD
- 14 = Heatsink Over Temp
- 13 = Current Trip
- 12 = Heatsink Warning Temp
- 11 = AC Line Phase Loss
- 10 = Shorted SCR
- 9 = Power Limit
- 8 = Current Limit
- 7 = Voltage Limit
- 6 = Digital Run Enable
- 5 = In "Run" State
- 4 = 3 Phase Load Imbalance
- 3 = Low Output
- 2 = TBD
- 1 = TBD
- 0 = TBD

SP 18 Deviation Band Zone 1

Units: Percent
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Default: 100.00 10000

SP 19-20 Reserved**SP 21 Feedback Type Zone 2**

Units: N/A
 Minimum: 1
 Maximum: 7
 Default: 1

Selections: 1 = RMS Voltage
 2 = AVG Voltage
 3 = RMS Current
 4 = AVG Current
 5 = Real Power
 6 = External
 (uses the Analog Setpoint 2 input)
 7 = Apparent Power

SP 22 Firing Mode Zone 2

Units: N/A
 Minimum: 1
 Maximum: 4
 Default: 1 or 3 - Model number dependent

Selections: 1 = Zero Cross
 2 = Zero Cross Burst
 3 = Phase Angle
 4 = Zero Cross Transformer (ZCT)

SP 23 Control Loop Zone 2

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 1

Selections: 0 = Open Loop
 1 = Closed Loop

SP 24 Ramp Time Zone 2

Units: Seconds
 Decimal Places: 0
 EU/Register Value
 Minimum: 0
 Maximum: 120
 Default: 0

SP 25 Slew Rate Zone 2 (Control Response Factor)

Units: N/A
 Decimal Places: 0
 EU/Register Value
 Minimum: 50
 Maximum: 2000
 Default: 500

SP 26 Burst Start Angle Zone 2

Units: Degrees
 Decimal Places: 0
 EU/Register Value
 Minimum: 15
 Maximum: 150
 Default: 90

SP 27 Phase Angle to ZC Switch Threshold Zone 2

Units: AC Line Cycles
 Decimal Places: 0
 EU/Register Value
 Minimum: 5
 Maximum: 20
 Default: 6

SP 28 Full Scale Voltage Zone 2

Units: Volts
 Decimal Places: 1
 EU Register Value
 Minimum: 5.0 50
 Maximum: 850.0 8500
 Default: 480.0 4800

SP 29 Full Scale Current Zone 2

Units: Amps
 Decimal Places: 1
 EU Register Value
 Minimum: 1.0 10
 Maximum: 1680.0 16800
 Default: Frame Rating

SP 30 Full Scale Power Zone 2

Units: kW
 Decimal Places: 1
 EU Register Value
 Minimum: 0.1 1
 Maximum: 1440.0 14400
 Default: Calculated based on Full Scale Voltage
 (SP28) and Current (SP29) and type of
 controller

SP 31 Voltage Limit Zone 2

Units: Volts (RMS or AVG)
 Decimal Places: 1
 EU Register Value
 Minimum: 4.0 40
 Maximum: 925.0 9250
 Default: 630.0 6300

SP 32 Current Limit Zone 2

Units: Amps (RMS or AVG)
 Decimal Places: 1
 EU Register Value
 Minimum: 2.0 20
 Maximum: 105% Frame Rating
 Default: 105% Frame Rating

SP 33 Current Limit Type Zone 2

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 1

Selections: 1 = RMS
 2 = AVG

SP 34 Current Trip Zone 2

Units: Amps RMS
 Decimal Places: 0
 EU/Register Value
 Minimum: 50% Frame Rating
 Maximum: 450% Frame Rating
 Default: For Firing Mode (SP 22) set to 1
 (Zero Cross) = 400% Frame Rating
 For Firing Mode (SP 22) set to 3
 (Phase Angle) = 175% Frame Rating

SP 35 Power Limit Zone 2

Units: kW
 Decimal Places: 1
 EU Register Value
 Minimum: 0.1 1
 Maximum: 1512.0 15120
 Default: 1512.0 15120

SP 36 Relay 1 Alarm Mask Zone 2

Units:	N/A	
	<u>Binary</u>	<u>Decimal</u>
Minimum:	0000_0000_0000_0000	0
Maximum:	1111_1111_1111_1111	65535
Default:	0110_0000_0000_0000	24576

Bit Definitions:

15 =	TBD
14 =	Heatsink Over Temp
13 =	Current Trip
12 =	Heatsink Warning Temp
11 =	AC Line Phase Loss
10 =	Shorted SCR
9 =	Power Limit
8 =	Current Limit
7 =	Voltage Limit
6 =	Digital Run Enable
5 =	In "Run" State
4 =	TBD
3 =	Low Output
2 =	TBD
1 =	TBD
0 =	TBD

SP 37 Relay 2 Alarm Mask Zone 2

Units:	N/A	
	<u>Binary</u>	<u>Decimal</u>
Minimum:	0000_0000_0000_0000	0
Maximum:	1111_1111_1111_1111	65535
Default:	0001_0100_0000_0000	5120

Bit Definitions:

15 =	TBD
14 =	Heatsink Over Temp
13 =	Current Trip
12 =	Heatsink Warning Temp
11 =	AC Line Phase Loss
10 =	Shorted SCR
9 =	Power Limit
8 =	Current Limit
7 =	Voltage Limit
6 =	Digital Run Enable
5 =	In "Run" State
4 =	TBD
3 =	Low Output
2 =	TBD
1 =	TBD
0 =	TBD

SP 38 Deviation Band Zone 2

Units: Percent
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Default: 100.00 10000

SP 39-40 Reserved**SP 41 Feedback Type Zone 3**

Units: N/A
 Minimum: 1
 Maximum: 7
 Default: 1

Selections: 1 = RMS Voltage
 2 = AVG Voltage
 3 = RMS Current
 4 = AVG Current
 5 = Real Power
 6 = External
 (uses the Analog Setpoint 2 input)
 7 = Apparent Power

SP 42 Firing Mode Zone 3

Units: N/A
 Minimum: 1
 Maximum: 4
 Default: 1 or 3 - Model number dependent

Selections: 1 = Zero Cross
 2 = Zero Cross Burst
 3 = Phase Angle
 4 = Zero Cross Transformer (ZCT)

SP 43 Control Loop Zone 3

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 1

Selections: 0 = Open Loop
 1 = Closed Loop

SP 44 Ramp Time Zone 3

Units: Seconds
 Decimal Places: 0
 EU/Register Value
 Minimum: 0
 Maximum: 120
 Default: 0

SP 45 Slew Rate Zone 3 (Control Response Factor)

Units: N/A
 Decimal Places: 0
 EU/Register Value
 Minimum: 50
 Maximum: 2000
 Default: 500

SP 46 Burst Start Angle Zone 3

Units: Degrees
 Decimal Places: 0
 EU/Register Value
 Minimum: 15
 Maximum: 150
 Default: 90

SP 47 Phase Angle to ZC Switch Threshold Zone 3

Units: AC Line Cycles
 Decimal Places: 0
 EU/Register Value
 Minimum: 5
 Maximum: 20
 Default: 6

SP 48 Full Scale Voltage Zone 3

Units: Volts
 Decimal Places: 1
 EU Register Value
 Minimum: 5.0 50
 Maximum: 850.0 8500
 Default: 480.0 4800

SP 49 Full Scale Current Zone 3

Units: Amps
 Decimal Places: 1
 EU Register Value
 Minimum: 1.0 10
 Maximum: 1680.0 16800
 Default: Frame Rating

SP 50 Full Scale Power Zone 3

Units: kW
 Decimal Places: 1
 EU Register Value
 Minimum: 0.1 1
 Maximum: 1440.0 14400
 Default: Calculated based on Full Scale Voltage
 (SP 48) and Current (SP 49) and type of
 controller

SP 51 Voltage Limit Zone 3

Units: Volts (RMS or AVG)
 Decimal Places: 1
 EU Register Value
 Minimum: 4.0 40
 Maximum: 925.0 9250
 Default: 630.0 6300

SP 52 Current Limit Zone 3

Units: Amps (RMS or AVG)
 Decimal Places: 1
 EU Register Value
 Minimum: 2.0 20
 Maximum: 105% Frame Rating
 Default: 105% Frame Rating

SP 53 Current Limit Type Zone 3

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 1

Selections: 1 = RMS
 2 = AVG

SP 54 Current Trip Zone 3

Units: Amps RMS
 Decimal Places: 0
 EU/Register Value

Minimum: 50% Frame Rating
 Maximum: 450% Frame Rating

Default: For Firing Mode (SP 42) set to 1
 (Zero Cross) = 400% Frame Rating
 For Firing Mode (SP 42) set to 3
 (Phase Angle) = 175% Frame Rating

SP 55 Power Limit Zone 3

Units: kW
 Decimal Places: 1
 EU Register Value

Minimum: 0.1 1
 Maximum: 1512.0 15120
 Default: 1512.0 15120

SP 56 Relay 1 Alarm Mask Zone 3

Units: N/A
Binary Decimal

Minimum: 0000_0000_0000_0000 0
 Maximum: 1111_1111_1111_1111 65535
 Default: 0110_0000_0000_0000 24576

Bit Definitions: 15 = TBD
 14 = Heatsink Over Temp
 13 = Current Trip
 12 = Heatsink Warning Temp
 11 = AC Line Phase Loss
 10 = Shorted SCR
 9 = Power Limit
 8 = Current Limit
 7 = Voltage Limit
 6 = Digital Run Enable
 5 = In "Run" State
 4 = TBD
 3 = Low Output
 2 = TBD
 1 = TBD
 0 = TBD

SP 57 Relay 2 Alarm Mask Zone 3

Units: N/A
Binary Decimal

Minimum: 0000_0000_0000_0000 0
 Maximum: 1111_1111_1111_1111 65535
 Default: 0001_0100_0000_0000 5120

Bit Definitions: 15 = TBD
 14 = Heatsink Over Temp
 13 = Current Trip
 12 = Heatsink Warning Temp
 11 = AC Line Phase Loss
 10 = Shorted SCR
 9 = Power Limit
 8 = Current Limit
 7 = Voltage Limit
 6 = Digital Run Enable
 5 = In "Run" State
 4 = TBD
 3 = Low Output
 2 = TBD
 1 = TBD
 0 = TBD

SP 58 Deviation Band Zone 3

Units: Percent
 Decimal Places: 2
 EU Register Value

Minimum: 0.00 0
 Maximum: 100.00 10000
 Default: 100.00 10000

SP 59-60 Reserved

SP 61 Feedback Type Zone 4

Units: N/A

Minimum: 1
 Maximum: 7
 Default: 1

Selections: 1 = RMS Voltage
 2 = AVG Voltage
 3 = RMS Current
 4 = AVG Current
 5 = Real Power
 6 = External
 (Uses the Analog Setpoint 2 input)
 7 = Apparent Power

SP 62 Firing Mode Zone 4

Units: N/A
 Minimum: 1
 Maximum: 4
 Default: 1 or 3 - Model number dependent

Selections: 1 = Zero Cross
 2 = Zero Cross Burst
 3 = Phase Angle
 4 = Zero Cross Transformer (ZCT)

SP 63 Control Loop Zone 4

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 1

Selections: 0 = Open Loop
 1 = Closed Loop

SP 64 Ramp Time Zone 4

Units: Seconds
 Decimal Places: 0
 EU/Register Value
 Minimum: 0
 Maximum: 120
 Default: 0

SP 65 Slew Rate Zone 4 (Control Response Factor)

Units: N/A
 Decimal Places: 0
 EU/Register Value
 Minimum: 50
 Maximum: 2000
 Default: 500

SP 66 Burst Start Angle Zone 4

Units: Degrees
 Decimal Places: 0
 EU/Register Value
 Minimum: 15
 Maximum: 150
 Default: 90

SP 67 Phase Angle to ZC Switch Threshold Zone 4

Units: AC Line Cycles
 Decimal Places: 0
 EU/Register Value
 Minimum: 5
 Maximum: 20
 Default: 6

SP 68 Full Scale Voltage Zone 4

Units: Volts
 Decimal Places: 1
 EU Register Value
 Minimum: 5.0 50
 Maximum: 850.0 8500
 Default: 480.0 4800

SP 69 Full Scale Current Zone 4

Units: Amps
 Decimal Places: 1
 EU Register Value
 Minimum: 1.0 10
 Maximum: 1680.0 16800
 Default: Frame Rating

SP 70 Full Scale Power Zone 4

Units: kW
 Decimal Places: 1
 EU Register Value
 Minimum: 0.1 1
 Maximum: 1440.0 14400
 Default: Calculated based on Full Scale Voltage (SP 68) and Current (SP 69) and type of controller

SP 71 Voltage Limit Zone 4

Units: Volts (RMS or AVG)
 Decimal Places: 1
 EU Register Value
 Minimum: 4.0 40
 Maximum: 925.0 9250
 Default: 630.0 6300

SP 72 Current Limit Zone 4

Units: Amps (RMS or AVG)
 Decimal Places: 1
 EU Register Value
 Minimum: 2.0 20
 Maximum: 105% Frame Rating
 Default: 105% Frame Rating

SP 73 Current Limit Type Zone 4

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 1

Selections: 1 = RMS
 2 = AVG

SP 74 Current Trip Zone 4

Units: Amps RMS
 Decimal Places: 0
 EU/Register Value
 Minimum: 50% Frame Rating
 Maximum: 450% Frame Rating
 Default: For Firing Mode (SP 62) set to 1
 (Zero Cross) = 400% Frame Rating
 For Firing Mode (SP 62) set to 3
 (Phase Angle) = 175% Frame Rating

SP 75 Power Limit Zone 4

Units: kW
 Decimal Places: 1
 EU Register Value
 Minimum: 0.1 1
 Maximum: 1512.0 15120
 Default: 1512.0 15120

SP 76 Relay 1 Alarm Mask Zone 4

Units:	N/A	
	<u>Binary</u>	<u>Decimal</u>
Minimum:	0000_0000_0000_0000	0
Maximum:	1111_1111_1111_1111	65535
Default:	0110_0000_0000_0000	24576

Bit Definitions:

- 15 = TBD
- 14 = Heatsink Over Temp
- 13 = Current Trip
- 12 = Heatsink Warning Temp
- 11 = AC Line Phase Loss
- 10 = Shorted SCR
- 9 = Power Limit
- 8 = Current Limit
- 7 = Voltage Limit
- 6 = Digital Run Enable
- 5 = In "Run" State
- 4 = TBD
- 3 = Low Output
- 2 = TBD
- 1 = TBD
- 0 = TBD

SP 77 Relay 2 Alarm Mask Zone 4

Units:	N/A	
	<u>Binary</u>	<u>Decimal</u>
Minimum:	0000_0000_0000_0000	0
Maximum:	1111_1111_1111_1111	65535
Default:	0001_0100_0000_0000	5120

Bit Definitions:

- 15 = TBD
- 14 = Heatsink Over Temp
- 13 = Current Trip
- 12 = Heatsink Warning Temp
- 11 = AC Line Phase Loss
- 10 = Shorted SCR
- 9 = Power Limit
- 8 = Current Limit
- 7 = Voltage Limit
- 6 = Digital Run Enable
- 5 = In "Run" State
- 4 = TBD
- 3 = Low Output
- 2 = TBD
- 1 = TBD
- 0 = TBD

SP 78 Deviation Band Zone 4

Units: Percent
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Default: 100.00 10000

SP 79: Reserved

SP 80 3 Phase DC Load Configuration (3 Phase DC Controllers Only)

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 1

Selections:

- 1 = Normal DC Bridge
- 2 = Inter-Phase Transformer

SP 81 3 Phase Load Config (3 Phase AC Controllers Only)

Units: N/A
 Minimum: 1
 Maximum: 3
 Default: 1

Selections:

- 1 = Delta/Wye
- 2 = 4 Wire Wye
- 3 = Inside Delta

SP 82 RUN Logic

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = Closed to RUN (OPEN to STOP)
 1 = Open to RUN (CLOSE TO STOP)

SP 83 Reserved**SP 84 Hero Mode Enable**

Units: N/A (**Voids MFG Warranty when enabled and temp limit is reached**)
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = OFF
 1 = ON

SP 85 Relay 1 System Alarm Mask

Units: N/A
 Minimum: 0000_0000_0000_0000
 Maximum: 1111_1111_1111_1111
 Default: 0000_0000_0000_0000

Bit Definitions: 15 = Control Relay 1 with Digital System Command bit 10
 14 = TBD
 13 = TBD
 12 = TBD
 11 = TBD
 10 = TBD
 9 = TBD
 8 = TBD
 7 = TBD
 6 = RUN Enable (Switch terminals combined w/ RUN logic)
 5 = Controller is in RUN State
 4 = PLL Lock Loss
 3 = Watchdog Timeout
 2 = Memory Error
 1 = Communications Error
 0 = Processor Error Trap

SP 86 Relay 2 System Alarm Mask

Units: N/A
 Minimum: 0000_0000_0000_0000
 Maximum: 1111_1111_1111_1111
 Default: 0000_0000_0000_0000

Bit Definitions: 15 = Control Relay 2 with Digital System Command bit 11
 14 = TBD
 13 = TBD
 12 = TBD
 11 = TBD
 10 = TBD
 9 = TBD
 8 = TBD
 7 = TBD
 6 = RUN Enable (Switch terminals combined w/ RUN logic)
 5 = Controller is in RUN State
 4 = PLL Lock Loss
 3 = Watchdog Timeout
 2 = Memory Error
 1 = Communications Error
 0 = Processor Error Trap

SP 87 3 Phase Load Current Imbalance Threshold

Units: %
 Decimal Places: 0
 Minimum: 0
 Maximum: 200
 Default: 0

SP 88 Analog Setpoint 1 Function Select

Units: N/A
 Minimum: 0
 Maximum: 2
 Default: 0

Selections: 0 = Normal Operation
 1 = Reserved (Normal Operation)
 2 = Monitor (using MP-208, and SP-136 for Scaling)

SP 89 Analog Setpoint 2 Function Select

Units: N/A
 Minimum: 0
 Maximum: 2
 Default: 0

Selections: 0 = Normal Operation (Analog Setpoint 2 or External Feedback)
 1 = External Current Transformer Input
 2 = Monitor (using MP-209, and SP-137 for Scaling)

SP 90 Analog Setpoint 1 Type

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 2

Selections: 1 = Voltage Input
 2 = Current Input

SP 91 Analog Setpoint 1 Lo Command

Units: V, mA
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	25.00	2500
Default:	4.00	400

SP 92 Analog Setpoint 1 Lo Output

Units: N/A, Based on Full Scale Values
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	0.00	0

SP 93 Analog Setpoint 1 Hi Command

Units: V, mA
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	25.00	2500
Default:	20.00	2000

SP 94 Analog Setpoint 1 Hi Output

Units: N/A, Based on Full Scale Values
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	100.00	10000

SP 95 Analog Setpoint 2 Type

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 1

Selections: 1 = Voltage Input
 2 = Current Input

SP 96 Analog Setpoint 2 Lo Command

Units: V, mA
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	25.00	2500
Default:	0.00	0

SP 97 Analog Setpoint 2 Lo Output

Units: N/A, Based on Full Scale Values
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	0.00	0

SP 98 Analog Setpoint 2 Hi Command

Units: V, mA
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	25.00	2500
Default:	5.00	500

SP 99 Analog Setpoint 2 Hi Output

Units: N/A, Based on Full Scale Values
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	100.00	10000

SP 100 Setpoint 1 Zone 1 (Digital Setpoint 1)

Units: % of Full Scale
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	0.00	0

SP 101 Setpoint 2 Zone 1 (Digital Setpoint 2)

Units: % of Full Scale
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	0.00	0

SP 102 Setpoint 1 Zone 2 (Digital Setpoint 3)

Units: % of Full Scale
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	0.00	0

SP 103 Setpoint 2 Zone 2 (Digital Setpoint 4)

Units: % of Full Scale
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	0.00	0

SP 104 Setpoint 1 Zone 3 (Digital Setpoint 5)

Units: % of Full Scale
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Default: 0.00 0

SP 105 Setpoint 2 Zone 3 (Digital Setpoint 6)

Units: % of Full Scale
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Default: 0.00 0

SP 106 Setpoint 1 Zone 4 (Digital Setpoint 7)

Units: % of Full Scale
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Default: 0.00 0

SP 107 Setpoint 2 Zone 4 (Digital Setpoint 8)

Units: % of Full Scale
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Default: 0.00 0

SP 108 Reserved**SP 109 Clear Error Latch**

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = Do Not Clear
 1 = Clear the Latch Bits to 0*

* Automatically resets to 0 after latch bits are set to 0

SP 110-114: Reserved for OEM**SP 115 Sync Guard Termination Resistor**

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 1

Selections: 0 = Resistor NOT Connected
 1 = Resistor Connected Across Terminals

SP 116 Auto Scroll Enable

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 1
 Selections: 0 = Disabled
 1 = Enabled

SP 117 3 Phase DC Load Current Compensation Enable

Units: N/A
 Minimum: 0
 Maximum: 2
 Default: 0
 Selections: 0 = Disabled
 1 = Enabled
 2 = Table Load

SP 118 DeviceNet MAC ID

Units: N/A
 Decimal Places: 0
 Minimum: 0
 Maximum: 63
 Default: 63

SP 119 DeviceNet Baud Rate

Units: N/A
 Minimum: 0
 Maximum: 2
 Default: 0
 Selections: 0 = 125 Kbps
 1 = 250 Kbps
 2 = 500 Kbps

SP 120 Digital Comm Address

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 125
 Default: 1

SP 121 RS-485 Baud Rate

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 2
 Selections: 1 = 9600 bps
 2 = 19.2 Kbps

SP 122 RS-485 Byte Format

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 2

Selections: 1 = 8, N, 1
 2 = 8, E, 1

SP 123 RS-485 Modbus Protocol

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 1

Selections: 1 = Modbus RTU
 2 = Modbus ASCII

SP 124 RS-485 Char Out

Units: N/A
 Decimal Places: 0
 Minimum: 0
 Maximum: 255
 Default: 48

SP 125 Communications Heartbeat Timer (RS-485)

Units: Seconds
 Decimal Places: 0
 Minimum: 0
 Maximum: 300
 Default: 0

SP 126 IP Address HI

Units: N/A
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535
 Default: 65535 [255.255]

SP 127 IP Address LO

Units: N/A
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535
 Default: 65535 [255.255]

SP 128 Network Timeout Action

Units: N/A
 Minimum: 0000_0000_0000_0000
 Maximum: 1111_1111_1111_1111
 Default: 0000_0000_0000_0000

Bit Definitions: 15 = Reserved
 14 = Reserved
 13 = Reserved
 12 = Reserved
 11 = Reserved
 10 = Reserved
 9 = Reserved
 8 = Reserved
 7 = Reserved
 6 = Reserved
 5 = Reserved
 4 = Reserved
 3 = Reserved
 2 = DeviceNet Network Power Loss
 1 = DeviceNet Explicit Connection Timeout
 0 = Communication Heartbeat Timeout (DeviceNet I/O Poll Connection)

SP 129 Digital System Command

Units: N/A
 Minimum: 0000_0000_0000_0000
 Maximum: 1111_1111_1111_1111
 Default: 0000_0000_0000_0000

Bit Definitions: 15 = Analog Select Zone 4
 14 = Analog Select Zone 3
 13 = Analog Select Zone 2
 12 = Analog Select Zone 1
 11 = Relay 2 (0 = OFF, 1 = ON)
 10 = Relay 1 (0 = OFF, 1 = ON)
 9 = RESERVED (Should be set = 0)
 8 = RESERVED (Should be set = 0)
 7 = Setpoint 2 Select Zone 4
 6 = Setpoint 2 Select Zone 3
 5 = Setpoint 2 Select Zone 2
 4 = Setpoint 2 Select Zone 1
 3 = RUN Request Zone 4 (0 = Stop / 1 = RUN)
 2 = RUN Request Zone 3 (0 = Stop / 1 = RUN)
 1 = RUN Request Zone 2 (0 = Stop / 1 = RUN)
 0 = RUN Request Zone 1 (0 = Stop / 1 = RUN)

SP 130 Modbus Minimum Response Time

Units: ms
 Decimal Places: 0
 Minimum: 0
 Maximum: 50
 Default: 0

SP 131 Sync Guard Enable

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = OFF
 1 = ON

SP 132 Shorted SCR Check Enable

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = OFF
 1 = ON

SP 133 P1-8 Override

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = OFF
 1 = ON [Analog/Digital set by SP-129
 Digital System Command]

SP 134 P1-10 Override

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = OFF
 1 = ON [Setpoint 1/2 set by SP-129
 Digital System Command]

SP 135 Communications Watchdog

Units: Seconds
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535
 Default: 0

SP 136 Full Scale Monitor Value Analog Setpoint 1

Units: N/A
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 3200.0 32000
 Default: 1000.0 10000

SP 137 Full Scale Monitor Value Analog Setpoint 2

Units: N/A
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 3200.0 32000
 Default: 1000.0 10000

SP 138-139: Reserved**SP 140 Meter 1 Output Type**

Units: N/A
 Minimum: 1
 Maximum: 2
 Default: 1

Selections: 1 = Voltage Output
 2 = Current Output

SP 141 Meter 1 Signal Select

Units:	N/A		
Minimum:	1		
Maximum:	24		
Default:	1		
Selection:	1	=	RMS Load Voltage A
	2	=	AVG Load Voltage A
	3	=	RMS Load Current A
	4	=	AVG Load Current A
	5	=	Load Power A
	6	=	RMS Load Voltage B
	7	=	AVG Load Voltage B
	8	=	RMS Load Current B
	9	=	AVG Load Current B
	10	=	Load Power B
	11	=	RMS Load Voltage C
	12	=	AVG Load Voltage C
	13	=	RMS Load Current C
	14	=	AVG Load Current C
	15	=	Load Power C
	16	=	RMS Load Voltage D
	17	=	AVG Load Voltage D
	18	=	RMS Load Current D
	19	=	AVG Load Current D
	20	=	Load Power D
	21	=	Load Voltage (DC or Single Phase - 1 Zone)
	22	=	Load Current (DC or Single Phase - 1 Zone)
	23	=	Load Power (3 Phase AC or DC, or 3 Phase 2-Leg)
	24	=	Direct Out [SP-146]

SP 142 Meter 1 Command Lo Value

Units:	N/A, Based on Full Scale Values		
Decimal Places:	2		
	EU		Register Value
Minimum:	0.00		0
Maximum:	100.00		10000
Default:	0.00		0

SP 143 Meter 1 Signal Lo Output

Units:	V, mA		
Decimal Places:	2		
	EU		Register Value
Minimum:	0.00		0
Maximum:	20.00		2000
Default:	0.00		0

SP 144 Meter 1 Command Hi Value

Units:	N/A, Based on Full Scale Values		
Decimal Places:	2		
	EU		Register Value
Minimum:	0.00		0
Maximum:	100.00		10000
Default:	100.00		10000

SP 145 Meter 1 Signal HI Output

Units:	V, mA		
Decimal Places:	2		
	EU		Register Value
Minimum:	0.00		0
Maximum:	20.00		2000
Default:	5.00		500

SP 146 Meter 1 Out Direct

Units:	V, mA		
Decimal Places:	2		
	EU		Register Value
Minimum:	0.00		0
Maximum:	20.00		2000
Default:	0.00		0

SP 147 Meter 2 Output Type

Units:	N/A		
Minimum:	1		
Maximum:	2		
Default:	1		
Selections:	1	=	Voltage Output
	2	=	Current Output

SP 148 Meter 2 Signal Select

Units: N/A
 Minimum: 1
 Maximum: 24
 Default: 3

Selection:

- 1 = RMS Load Voltage A
- 2 = AVG Load Voltage A
- 3 = RMS Load Current A
- 4 = AVG Load Current A
- 5 = Load Power A
- 6 = RMS Load Voltage B
- 7 = AVG Load Voltage B
- 8 = RMS Load Current B
- 9 = AVG Load Current B
- 10 = Load Power B
- 11 = RMS Load Voltage C
- 12 = AVG Load Voltage C
- 13 = RMS Load Current C
- 14 = AVG Load Current C
- 15 = Load Power C
- 16 = RMS Load Voltage D
- 17 = AVG Load Voltage D
- 18 = RMS Load Current D
- 19 = AVG Load Current D
- 20 = Load Power D
- 21 = Load Voltage
(DC or Single Phase - 1 Zone)
- 22 = Load Current
(DC or Single Phase - 1 Zone)
- 23 = Load Power (3 Phase AC or DC, or
3 Phase 2-Leg)
- 24 = Direct Out [SP-153]

SP 149 Meter 2 Command Lo Value

Units: N/A, Based on Full Scale Values
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	0.00	0

SP 150 Meter 2 Signal Lo Output

Units: V, mA
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	20.00	2000
Default:	0.00	0

SP 151 Meter 2 Command HI Value

Units: N/A, Based on Full Scale Values
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	100.00	10000
Default:	100.00	10000

SP 152 Meter 2 Signal HI Output

Units: V, mA
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	20.00	2000
Default:	5.00	500

SP 153 Meter 2 Out Direct

Units: V, mA
 Decimal Places: 2

	EU	Register Value
Minimum:	0.00	0
Maximum:	20.00	2000
Default:	0.00	0

SP 154 Aux Card Digital Input 1 Function

Units: N/A (Single Zone Only)
 Minimum: 0
 Maximum: 1
 Default: 0

Selections:

- 0 = NONE
- 1 = Switch Closed = OPEN LOOP
Switch Open = CLOSED LOOP

SP 155: Reserved**SP 156 Aux Card Digital Output 1 Function**

Units: N/A (Single Zone Only)
 Minimum: 0
 Maximum: 6
 Default: 0

Selections:

- 0 = NONE
- 1 = Direct Out
- 2 = Voltage Limit Indication
- 3 = Current Limit Indication
- 4 = Power Limit Indication
- 5 = Control in "Ready" State Indication
- 6 = Control Output ON Indication

SP 157 Aux Card Digital Output 2 Function

Units: N/A (Single Zone Only)
 Minimum: 0
 Maximum: 6
 Default: 0

Selections:

- 0 = NONE
- 1 = Direct Out
- 2 = Voltage Limit Indication
- 3 = Current Limit Indication
- 4 = Power Limit Indication
- 5 = Control in "Ready" State Indication
- 6 = Control Output ON Indication

SP 158 Aux Card Digital Output 1 Set

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = NOT Activated
 1 = Output Activated

SP 159 Aux Card Digital Output 2 Set

Units: N/A
 Minimum: 0
 Maximum: 1
 Default: 0

Selections: 0 = NOT Activated
 1 = Output Activated

SP 160 Parameter Link Inst 1 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 199
 Default: 100

SP 161 Parameter Link Inst 2 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 199
 Default: 102

SP 162 Parameter Link Inst 3 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 199
 Default: 104

SP 163 Parameter Link Inst 4 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 199
 Default: 106

SP 164 Parameter Link Inst 5 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 199
 Default: 129

SP 165 Parameter Link Inst 6 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 199
 Default: 11

SP 166 Parameter Link Inst 7 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 199
 Default: 12

SP 167 Parameter Link Inst 8 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 199
 Default: 15

SP 168 Parameter Link Inst 9 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 350

SP 169 Parameter Link Inst 10 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 351

SP 170 Parameter Link Inst 11 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 355

SP 171 Parameter Link Inst 12 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 356

SP 172 Parameter Link Inst 13 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 360

SP 173 Parameter Link Inst 14 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 361

SP 181 Parameter Link Inst 22 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 301

SP 174 Parameter Link Inst 15 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 365

SP 182 Parameter Link Inst 23 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 331

SP 175 Parameter Link Inst 16 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 366

SP 183 Parameter Link Inst 24 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 332

SP 176 Parameter Link Inst 17 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 344

SP 184 Parameter Link Inst 25 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 8

SP 177 Parameter Link Inst 18 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 210

SP 185 Parameter Link Inst 26 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 9

SP 178 Parameter Link Inst 19 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 256

SP 186 Parameter Link Inst 27 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 10

SP 179 Parameter Link Inst 20 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 271

SP 187 Parameter Link Inst 28 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 28

SP 180 Parameter Link Inst 21 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 286

SP 188 Parameter Link Inst 29 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 29

SP 189 Parameter Link Inst 30 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 30

SP 190 Parameter Link Inst 31 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 48

SP 191 Parameter Link Inst 32 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 49

SP 192 Parameter Link Inst 33 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 50

SP 193 Parameter Link Inst 34 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 68

SP 194 Parameter Link Inst 35 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 69

SP 195 Parameter Link Inst 36 Attr 3

Units: Parameter Code Number
 Decimal Places: 0
 Minimum: 1
 Maximum: 389
 Default: 70

SP 196 DeviceNet Output Assy Member Mask

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111
 Default: 0001_1111

Bit Definitions:

7	=	Parameter Link Instance 8 (Attribute 1)
6	=	Parameter Link Instance 7 (Attribute 1)
5	=	Parameter Link Instance 6 (Attribute 1)
4	=	Parameter Link Instance 5 (Attribute 1)
3	=	Parameter Link Instance 4 (Attribute 1)
2	=	Parameter Link Instance 3 (Attribute 1)
1	=	Parameter Link Instance 2 (Attribute 1)
0	=	Parameter Link Instance 1 (Attribute 1)

SP 197 DeviceNet Input Assy Member Mask

Units: N/A
 Minimum: 0000_0000_0000_0000
 Maximum: 1111_1111_1111_1111
 Default: 0000_0001_1111_1111

Bit Definitions:

15 =	Parameter Link Instance 24 (Attribute 1)
14 =	Parameter Link Instance 23 (Attribute 1)
13 =	Parameter Link Instance 22 (Attribute 1)
12 =	Parameter Link Instance 21 (Attribute 1)
11 =	Parameter Link Instance 20 (Attribute 1)
10 =	Parameter Link Instance 19 (Attribute 1)
9 =	Parameter Link Instance 18 (Attribute 1)
8 =	Parameter Link Instance 17 (Attribute 1)
7 =	Parameter Link Instance 16 (Attribute 1)
6 =	Parameter Link Instance 15 (Attribute 1)
5 =	Parameter Link Instance 14 (Attribute 1)
4 =	Parameter Link Instance 13 (Attribute 1)
3 =	Parameter Link Instance 12 (Attribute 1)
2 =	Parameter Link Instance 11 (Attribute 1)
1 =	Parameter Link Instance 10 (Attribute 1)
0 =	Parameter Link Instance 9 (Attribute 1)

SP 199 DeviceNet Config

Units: N/A
 Minimum: 0000_0000
 Maximum: 0000_0111
 Default: 0000_0000

Bit Definitions:

7 =	(0) Reserved
6 =	(0) Reserved
5 =	(0) Reserved
4 =	(0) Reserved
3 =	(0) Reserved
	Poll Connection WTA:
2 =	(0) Transition to Time-out/ (1) Auto Reset
	Explicit Connection WTA:
1 =	(0)Auto Delete/(1)Deferred Delete
	BOI Default: (0)Hold in Reset/ (1) Auto Reset to On-Line
0 =	

SP 198 DeviceNet POLL I/O Default EPR

Units: ms
 Decimal Places: 0
 Minimum: 1
 Maximum: 65535
 Default: 0

MONITOR PARAMETERS

User List, Range: 200 to 389

MP 200 Setpoint Type Selected

Units: N/A
Minimum: 1
Maximum: 4

Representation: 1 = Analog Setpoint 1
2 = Analog Setpoint 2
3 = Digital Setpoint 1
4 = Digital Setpoint 2

MP 201 Reserved

MP 202 Analog Setpoint 1

Units: %, Based on Full Scale Values
Decimal Places: 2
EU Register Value
Minimum: -100.00 -10000
Maximum: 100.00 10000

MP 203 Analog Setpoint 1 Command

Units: V, A, KW
Decimal Places: 1
EU Register Value
Minimum: -9999.9 -99999
Maximum: 9999.9 99999

MP 204 Analog Setpoint 1 Signal

Units: V, mA
Decimal Places: 2
EU Register Value
Minimum: -99.99 -9999
Maximum: 99.99 9999

MP 205 Analog Setpoint 2

Units: %, Based on Full Scale Values
Decimal Places: 2
EU Register Value
Minimum: -100.00 -10000
Maximum: 100.00 10000

MP 206 Analog Setpoint 2 Command

Units: V, A, KW
Decimal Places: 1
EU Register Value
Minimum: -9999.9 -99999
Maximum: 9999.9 99999

MP 207 Analog Setpoint 2 Signal

Units: V, mA
Decimal Places: 2
EU Register Value
Minimum: -99.99 -9999
Maximum: 99.99 9999

MP 208 Analog Setpoint 1 Monitor Value

Units: N/A
Decimal Places: 1
EU Register Value
Minimum: -9999.9 -99999
Maximum: 9999.9 99999

MP 209 Analog Setpoint 2 Monitor Value

Units: N/A
Decimal Places: 1
EU Register Value
Minimum: -9999.9 -99999
Maximum: 9999.9 99999

MP 210 Inhibit Alarm Status

Units: N/A
Minimum: 0000_0000
Maximum: 1111_1111
Bit Definition:

MSB 7 = Watchdog Timeout
6 = Memory Error (Not Active)
5 = Not Used
4 = Not Used
3 = Line Phase Loss
2 = PLL Lock Loss
1 = Heatsink Over-Temp
LSB 0 = Current Trip

MP 211 Controller Status

Units: N/A
Minimum: 0
Maximum: 3

Selections: 0 = Disabled
1 = Enabled
2 = Diagnostic
3 = Calibration

MP 212: Reserved

MP 213 Digital I/O Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = Not Used
 6 = Not Used
 5 = Relay 2
 4 = Relay 1
 3 = Not Used
 2 = Setpoint 1/Setpoint 2
 1 = Run/Stop-Reset
 LSB 0 = Digital/Analog

MP 214 Aux I/O Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = Not Used
 6 = Not Used
 5 = Digital Output 1
 4 = Digital Output 0
 3 = Not Used
 2 = Not Used
 1 = Digital Input 1
 LSB 0 = Digital Input 2

MP 215-218: Reserved**MP 219 Line Frequency**

Units: Hz
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 99.9 999

MP 220 Line Voltage A

Units: RMS Volts
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 999.9 9999

MP 221 Load Voltage A

Units: Volts RMS or AVG
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 999.9 9999

MP 222 Load Current A

Units: Amps RMS or AVG
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 9999.9 99999

MP 223: Reserved**MP 224 Heatsink Temp A**

Units: °C
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 105.0 1050

MP 225 Line Voltage B

Units: RMS Volts
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 999.9 9999

MP 226 Load Voltage B

Units: Volts RMS or AVG
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 999.9 9999

MP 227 Load Current B

Units: Amps RMS or AVG
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 9999.9 99999

MP 228: Reserved**MP 229 Heatsink Temp B**

Units: °C
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 105.0 1050

MP 230 Line Voltage C

Units: RMS Volts
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 999.9 9999

MP 231 Load Voltage C

Units: Volts RMS or AVG
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 999.9 9999

MP 232 Load Current C

Units: Amps RMS or Average
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 9999.9 99999

MP 233: Reserved
MP 234 Heatsink Temp C

Units: °C
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 105.0 1050

MP 235 Line Voltage D

Units: RMS Volts
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 999.9 9999

MP 236 Load Voltage D

Units: Volts RMS or AVG
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 999.9 9999

MP 237 Load Current D

Units: Amps RMS or AVG
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 9999.9 99999

MP 238: Reserved
MP 239 Heatsink Temp D

Units: °C
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 105.0 1050

MP 240-244: Reserved
MP 245 Load Power Zone 1 HI (MSW)

Units: Watts or VA
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 246 Load Power Zone 1 LO (LSW)

Units: Watts or VA
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 247 Line Power Factor Zone 1

Units: N/A
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 1.00 100

MP 248 Controller State Zone 1

Units: N/A
 Minimum: 0
 Maximum: 2

 Selections: 0 = STOP
 1 = RUN
 2 = FAULT

MP 249 Duty % Zone 1

Units: % of Full ON
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 100.0 1000

MP 250 Setpoint Reference Zone 1 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 251 Setpoint Reference Zone 1 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 252 Feedback Zone 1 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 253 Feedback Zone 1 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 6535

MP 254 Control Loop Error Zone 1 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 255 Control Loop Error Zone 1 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 256 Warning Alarm Zone 1

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = Not Used
 6 = Low Output
 5 = Load Imbalance
 4 = Shorted SCR
 3 = Heatsink Tmp
 2 = Power Limit
 1 = Current Limit
 LSB 0 = Voltage Limit

MP 257 Load Power Factor Zone 1

Units: N/A
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 1.00 100

MP 258-259: Reserved**MP 260 Load Power Zone 2 HI (MSW)**

Units: Watts or VA
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 261 Load Power Zone 2 LO (LSW)

Units: Watts or VA
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 262 Line Power Factor Zone 2

Units: N/A
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 1.00 100

MP 263 Controller State Zone 2

Units: N/A
 Minimum: 0
 Maximum: 2

Selections: 0 = STOP
 1 = RUN
 2 = FAULT

MP 264 Duty % Zone 2

Units: % of Full ON
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 100.0 1000

MP 265 Setpoint Reference Zone 2 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 266 Setpoint Reference Zone 2 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 267 Feedback Zone 2 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 268 Feedback Zone 2 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 269 Control Loop Error Zone 2 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 270 Control Loop Error Zone 2 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 271 Warning Alarm Zone 2

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = Not Used
 6 = Low Output
 5 = Load Imbalance
 4 = Shorted SCR
 3 = Heatsink Tmp
 2 = Power Limit
 1 = Current Limit
 LSB 0 = Voltage Limit

MP 272 Load Power Factor Zone 2

Units: N/A
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 1.00 100

MP 273-274: Reserved
MP 275 Load Power Zone 3 HI (MSW)

Units: Watts or VA
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 276 Load Power Zone 3 LO (LSW)

Units: Watts or VA
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 277 Line Power Factor Zone 3

Units: N/A
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 1.00 100

MP 278 Controller State Zone 3

Units: N/A
 Minimum: 0
 Maximum: 2

 Selections 0 = STOP
 1 = RUN
 2 = FAULT

MP 279 Duty % Zone 3

Units: % of Full ON
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 100.0 1000

MP 280 Setpoint Reference Zone 3 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 281 Setpoint Reference Zone 3 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 282 Feedback Zone 3 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 283 Feedback Zone 3 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 284 Control Loop Error Zone 3 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 285 Control Loop Error Zone 3 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 286 Warning Alarm Zone 3

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = Not Used
 6 = Low Output
 5 = Load Imbalance
 4 = Shorted SCR
 3 = Heatsink Tmp
 2 = Power Limit
 1 = Current Limit
 LSB 0 = Voltage Limit

MP 287 Load Power Factor Zone 3

Units: N/A
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 1.00 100

MP 288-289: Reserved**MP 290 Load Power Zone 4 HI (MSW)**

Units: Watts or VA
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 291 Load Power Zone 4 LO (LSW)

Units: Watts or VA
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 292 Line Power Factor Zone 4

Units: N/A
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 1.00 100

MP 293 Controller State Zone 4

Units: N/A
 Minimum: 0
 Maximum: 2

Selections: 0 = STOP
 1 = RUN
 2 = FAULT

MP 294 Duty % Zone 4

Units: % of Full ON
 Decimal Places: 1
 EU Register Value
 Minimum: 0.0 0
 Maximum: 100.0 1000

MP 295 Setpoint Reference Zone 4 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 296 Setpoint Reference Zone 4 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 297 Feedback Zone 4 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 298 Feedback Zone 4 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 299 Control Loop Error Zone 4 HI (MSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: -99
 Maximum: 99

MP 300 Control Loop Error Zone 4 LO (LSW)

Units: V, A, W
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 301 Warning Alarm Zone 4

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = Not Used
 6 = Low Output
 5 = Load Imbalance
 4 = Shorted SCR
 3 = Heatsink Tmp
 2 = Power Limit
 1 = Current Limit
 LSB 0 = Voltage Limit

MP 302 Load Power Factor Zone 4

Units: N/A
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 1.00 100

MP 303-306: Reserved
MP 307 Power-up Count

Units: Counts
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 308 Low Power Count

Units: Counts
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 309 In Service Time "CPU" HI (MSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 310 In Service Time "CPU" LO (LSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 311 In Service Time Module A HI (MSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 312 In Service Time Module A LO (LSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 313 In Service Time Module B HI (MSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 314 In Service Time Module B LO (LSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 315 In Service Time Module C HI (MSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 316 In Service Time Module C LO (LSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 317 In Service Time Module D HI (MSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 318 In Service Time Module D LO (LSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 319 In Service Time Aux Card HI (MSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 320 In Service Time Aux Card LO (LSW)

Units: Hour
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 321 System Hardware Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = Not Used
 6 = Communications Option Configured
 5 = Aux Card Present / EEPROM Status OK
 4 = Gate Drive Module D Present/ EEPROM Status OK
 3 = Gate Drive Module C Present/ EEPROM Status OK
 2 = Gate Drive Module B Present/ EEPROM Status OK
 1 = Gate Drive Module A Present/ EEPROM Status OK
 LSB 0 = Main EEPROM Status OK

MP 322 USB Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = CRC or LRC Error
 6 = Not Used
 5 = Not Used
 4 = Not Used
 3 = Parity Error
 2 = Framing Error
 1 = Receive Buffer Overrun
 LSB 0 = Address received, Message Error encountered

MP 323 Network Status (RS-485, Ethernet)

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = CRC Error
 6 = Heartbeat Timer Timeout
 5 = Ethernet READY (Operational)
 4 = Ethernet Module Error
 3 = Parity Error
 2 = Framing Error
 1 = Overrun Error
 LSB 0 = Valid Address Received with Message Error

MP 323 Network Status (DeviceNet)

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = I/O Poll Connection Timeout
 6 = Explicit Connection Timeout
 5 = Duplicate MAC ID Detected
 4 = Bus OFF State
 3 = Passive Error State
 2 = I/O Poll Connection Established
 1 = Explicit Connection Established
 LSB 0 = Network Power is ON

MP 323 Network Status (PROFIBUS)

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = CRC Error
 6 = PROFIBUS Timeout or Bus Error
 5 = Data Exchange State
 4 = Wait for parameterization state
 3 = Parity Error
 2 = Framing Error
 1 = Overrun Error
 LSB 0 = Valid Address Received with message error

MP 324 Network Char In (RS-485, Ethernet)

Units: N/A
 Decimal Places: 0
 Minimum: 0
 Maximum: 255

MP 325: Reserved**MP 326 Sync Guard Volts**

Units: VDC
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 18.00 1800

MP 327 EE Calibration Bits, Stored HI (MSW)

Units: ADC Bits
 Decimal Places: 0
 Minimum: -32768
 Maximum: 32767

MP 328 EE Calibration Bits, Stored LO (LSW)

Units: ADC Bits
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 329 Calibration Bits In, Live HI (MSW)

Units: ADC Bits
 Decimal Places: 0
 Minimum: -32768
 Maximum: 32767

MP 330 Calibration Bits In, Live LO (LSW)

Units: ADC Bits
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 331 Software ID

Units: N/A
 Decimal Places: 0
 Minimum: 0
 Maximum: 32767

MP 332 Firmware Version

Units: N/A
 Minimum: 0.00.01
 Maximum: 99.99.99

MP 333 Minor Revision

Units: N/A
 Decimal Places: 0
 Minimum: 01
 Maximum: 99

MP 334 System Configuration Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

- MSB 7 = Not Used
- 6 = Not Used
- 5 = Not Used
- 4 = (0) Single Zone / (1) Multi Zone
- 3 = (0) AC/(1) DC
- 2 = 3 Phase 3-Leg
- 1 = 3 Phase 2-Leg
- LSB 0 = Single Phase

MP 335 Misc Status

Units: N/A
 Minimum: 0000_0000_0000_0000
 Maximum: 1111_1111_1111_1111

Bit Definitions:

- MSB 15 = Not Used
- 14 = Not Used
- 13 = Not Used
- 12 = Not Used
- 11 = Not Used
- 10 = Not Used
- 9 = Not Used
- 8 = Not Used
- 7 = Load Trace is ON, Collecting Data
- 6 = AC Line Trace is ON, Collecting Data
- 5 = Load Trace is Enabled, Waiting for Trigger
- 4 = AC Line Trace is Enabled, Waiting for Trigger
- 3 = Waiting for the Enter Key during Initialization
- 2 = Not Used
- 1 = Incompatible CPLD Program
- LSB 0 = MFG Unlock, Access Code Successfully Entered

MP 336 Main FC EEPROM Status

Units: N/A
 Minimum: 0000_0000_0000_0000
 Maximum: 1111_1111_1111_1111

Bit Definitions:

- MSB 15 = Not Used
- 14 = Not Used
- 13 = EEPROM SP Definition Table update required
- 12 = EEPROM is write-protected
- 11 = Backup User SP V-table checksum failure
- 10 = Backup 3ph DC Current compensation table checksum failure
- 9 = 3ph DC Current compensation table checksum failure
- 8 = Repair record checksum failure
- 7 = Error Code Record checksum failure
- 6 = MFG Data Table checksum failure
- 5 = Calibration Data Table checksum failure
- 4 = CAL Parameter V-Table checksum failure
- 3 = MFG SP V-Table checksum failure
- 2 = User SP V-Table checksum failure
- 1 = Blank, Initialization required
- LSB 0 = Read/Write failure

MP 337 Module A EEPROM Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = EEPROM is write-protected
 6 = Not Used
 5 = Backup Calibration Table checksum failure (Main EE)
 4 = Repair Record checksum failure
 3 = Calibration Table checksum failure
 2 = MFG Data Table checksum failure
 1 = Blank, Initialization required
 LSB 0 = Read/Write failure

MP 340 Module D EEPROM Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = EEPROM is write-protected
 6 = Not Used
 5 = Backup Calibration Table checksum failure (Main EE)
 4 = Repair Record checksum failure
 3 = Calibration Table checksum failure
 2 = MFG Data Table checksum failure
 1 = Blank, Initialization required
 LSB 0 = Read/Write failure

MP 338 Module B EEPROM Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = EEPROM is write-protected
 6 = Not Used
 5 = Backup Calibration Table checksum failure (Main EE)
 4 = Repair Record checksum failure
 3 = Calibration Table checksum failure
 2 = MFG Data Table checksum failure
 1 = Blank, Initialization required
 LSB 0 = Read/Write failure

MP 341 Aux Card EEPROM Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = EEPROM is write-protected
 6 = Not Used
 5 = Backup Calibration Table checksum failure (Main EE)
 4 = Repair Record checksum failure
 3 = Calibration Table checksum failure
 2 = MFG Data Table checksum failure
 1 = Blank, Initialization required
 LSB 0 = Read/Write failure

MP 339 Module C EEPROM Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = EEPROM is write-protected
 6 = Not Used
 5 = Backup Calibration Table checksum failure (Main EE)
 4 = Repair Record checksum failure
 3 = Calibration Table checksum failure
 2 = MFG Data Table checksum failure
 1 = Blank, Initialization required
 LSB 0 = Read/Write failure

MP 342 AC Line Status

Units: N/A
 Minimum: 0000_0000
 Maximum: 1111_1111

Bit Definitions:

MSB 7 = Feedback ADC Timing OK
 6 = Control Loop Timing OK
 5 = Phase Rotation 3-2-1
 (0 = Phase Rotation 1-2-3)
 4 = Phase Rotation Determined
 3 = AC Line present Module D
 2 = AC Line present Module C
 1 = AC Line present Module B
 LSB 0 = AC Line present Module A

MP 343 Load Status

Units: N/A
Minimum: 0000_0000
Maximum: 1111_1111

Bit Definitions:

MSB 7 = Open Load Module D
6 = Open Load Module C
5 = Open Load Module B
4 = Open Load Module A
3 = Shorted SCR Module D
2 = Shorted SCR Module C
1 = Shorted SCR Module B
LSB 0 = Shorted SCR Module A

MP 344 Zone Status

Units: N/A
Minimum: 0000_0000_0000_0000
Maximum: 1111_1111_1111_1111

Bit Definitions:

MSB 15 = Not Used
14 = Not Used
13 = Not Used
12 = Not Used
11 = Fuse D
(0 = Fuse OK, 1 = Fuse Open)
10 = Fuse C
(0 = Fuse OK, 1 = Fuse Open)
9 = Fuse B
(0 = Fuse OK, 1 = Fuse Open)
8 = Fuse A
(0 = Fuse OK, 1 = Fuse Open)
7 = Zone 4: (0 = Not at Setpoint,
1 = at Setpoint)
6 = Zone 3: (0 = Not at Setpoint,
1 = at Setpoint)
5 = Zone 2: (0 = Not at Setpoint,
1 = at Setpoint)
4 = Zone 1: (0 = Not at Setpoint,
1 = at Setpoint)
3 = Zone 4: (0 = Normal, 1 = FAULT)
2 = Zone 3: (0 = Normal, 1 = FAULT)
1 = Zone 2: (0 = Normal, 1 = FAULT)
LSB 0 = Zone 1: (0 = Normal, 1 = FAULT)

MP 345 Error Latch

Units: N/A
Minimum: 0000_0000_0000_0000
Maximum: 1111_1111_1111_1111

Bit Definitions:

MSB 15 = (0) Reserved
14 = (0) Reserved
13 = (0) Reserved
12 = (0) Reserved
11 = (0) Reserved
10 = (0) Reserved
9 = (0) Reserved
8 = (0) Reserved
7 = (0) Reserved
6 = (0) Reserved
5 = DMA Error Trap Encountered and
Cleared
4 = SCR Firing "Re-Synch" Performed
3 = (0) Reserved
2 = AC Line Frequency check failure
1 = Phase Loss or Missing AC Line
cycle detected
LSB 0 = DMA "Re-Synch" Performed

MP 346: Reserved

MP 347 Modubs RTU State

Units: N/A
Minimum: 0000_0000_0000_0000
Maximum: 1111_1111_1111_1111

Bit Definitions:

MSB 15 = (0)Reserved
14 = (0)Reserved
13 = (0)Reserved
12 = Bad Message Received (error)
11 = (0)Reserved
10 = T2.0 Timer Timeout
9 = T2.0 Timer ON
8 = T1.5 Timer ON
7 = Transmitting
6 = (0)Reserved
5 = Processing Message
4 = Message Received
(Inter-Frame Delay)
3 = Receiving (Correct Address; Ours)
2 = Passive Receive 2
(inter-frame delay)
1 = Passive Receive 1
(Different Address; Not Ours)
LSB 0 = Idle

MP 348 Network Message Error Count (DeviceNet)

Units: Counts
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 349 Firmware Update Code

Units: N/A
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 350 Load Voltage % Zone 1

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 351 Load Current % Zone 1

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 352 Load Power % Zone 1

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 353-354: Reserved**MP 355 Load Voltage % Zone 2**

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 356 Load Current % Zone 2

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 357 Load Power % Zone 2

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 358-359: Reserved**MP 360 Load Voltage % Zone 3**

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 361 Load Current % Zone 3

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 362 Load Power % Zone 3

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 363-364: Reserved**MP 365 Load Voltage % Zone 4**

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 366 Load Current % Zone 4

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 367 Load Power % Zone 4

Units: %
 Decimal Places: 2
 EU Register Value
 Minimum: 0.00 0
 Maximum: 100.00 10000
 Typical

MP 368-369: Reserved
MP 370 Communications Timer (Ethernet)

Units: Seconds
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

MP 371-379: Reserved
MP 380 PGA Gain AC Line

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 381 PGA Gain Load Voltage A

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 382 PGA Gain Load Voltage B

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 383 PGA Gain Load Voltage C

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 384 PGA Gain Load Voltage D

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 385 PGA Gain Load Current A

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 386 PGA Gain Load Current B

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 387 PGA Gain Load Current C

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 388 PGA Gain Load Current D

Units: N/A
 Decimal Places: 0
 Minimum: 1
 Maximum: 32

MP 389 PGA Gain Message Count

Units: PGA Gain Update Message Count per
 AC Line 1/2 Cycle
 Decimal Places: 0
 Minimum: 0
 Maximum: 65535

SPECIAL PARAMETERS

User List, Range: 3400 to 3401

XP 3400 Digital System Command RUN/STOP Enable

Units: N/A
Minimum: 0
Maximum: 2
Default: 1

Selections: 0 = Never use Digital System
Command for RUN/Stop, use switch
1 = Analog use switch only, Digital use Dig Sys Cmd & switch
2 = Always use Digital System Command & switch

XP 3401 Digital System Command Power-Up Default

Units: N/A
Minimum: 0000_0000_0000_0000
Maximum: 1111_1111_1111_1111
Default: 0000_0000_0000_0000

Bit Definitions:

MSB 15 = Analog Select Zone 4
14 = Analog Select Zone 3
13 = Analog Select Zone 2
12 = Analog Select Zone 1
11 = Relay 2 (0 = OFF, 1 = ON)
10 = Relay 1 (0 = OFF, 1 = ON)
9 = RESERVED (Should be set = 0)
8 = RESERVED (Should be set = 0)
7 = Setpoint 2 Select Zone 4
6 = Setpoint 2 Select Zone 3
5 = Setpoint 2 Select Zone 2
4 = Setpoint 2 Select Zone 1
3 = RUN Request Zone 4
(0 = Stop/1 = RUN)
2 = RUN Request Zone 3
(0 = Stop/1 = RUN)
1 = RUN Request Zone 2
(0 = Stop/1 = RUN)
LSB 0 = RUN Request Zone 1
(0 = Stop/1 = RUN)

XP 3402 Output High Alm Threshold Zone 1

Units: %
Minimum: 0
Maximum: 100
Default: 100

XP 3403 Output Low Alm Threshold Zone 1

Units: %
Minimum: 0
Maximum: 100
Default: 0

XP 3404 Output High Alm Threshold Zone 2

Units: %
Minimum: 0
Maximum: 100
Default: 100

XP 3405 Output Low Alm Threshold Zone 2

Units: %
Minimum: 0
Maximum: 100
Default: 0

XP 3406 Output High Alm Threshold Zone 3

Units: %
Minimum: 0
Maximum: 100
Default: 100

XP 3407 Output Low Alm Threshold Zone 3

Units: %
Minimum: 0
Maximum: 100
Default: 0

XP 3408 Output High Alm Threshold Zone 4

Units: %
Minimum: 0
Maximum: 100
Default: 100

XP 3409 Output Low Alm Threshold Zone 4

Units: %
Minimum: 0
Maximum: 100
Default: 0

XP 3410 High/Low Out% Alarm Display Text Selection

Units: N/A
Minimum: 1 "Out% High/Low"
Maximum: 2 "Tap Change Up/Down"
Default: 1

XP 3403 Output Low Alm Threshold Zone 2

Units: %

Minimum: 0

Maximum: 100

Default: 0

XP 3411 PROFIBUS Termination Resistance Enable

Units: N/A

Minimum: 0

Maximum: 1

Default: 0

Selections: 0 = Disabled

 1 = Enabled