

Communication Protocol Support

The D1U4 family of power supplies currently supports 3.3V-bus and 5V-bus standard-mode (100kHz) I²C Serial Communication as outlined in Philips Semiconductors 'The I²C Bus Specification Version 2.1' (January 2000).

The D1U4 family of power supplies can also support 3.3V-bus and 5V-bus SMBUS Serial Communication as outlined in the SBS Implementers forum 'System Management Bus (SMBUS) Specification Version 2.0' (August 2000)

D1U4 power supplies are configured to operate as slave-only devices.

However, they can be re-configured to support single master operation and multi-master and slave operation.

The available address lines currently allows for communication with up to 8 D1U4 power supplies on a single serial communication bus.

Each D1U4 power supply contains a:

1. 2K serial EEPROM device used for FRU data storage (FRU data specs customer specific)
2. System-On-Chip (SOC) -type controller used for D1U4 status, fault, and parametric data reporting and remote on/off control

Serial Comm. Device Addressing

The D1U4 family of power supplies supports 8-bit addressing (7-bit slave address & LSB read/write bit).

The specified addressing is as follows:

SOC Device

Address Byte							
7	6	5	4	3	2	1	0
1	0	0	0	A2	A1	A0	R/W
MSB							LSB

Serial EEPROM

Address Byte							
7	6	5	4	3	2	1	0
1	0	1	0	A2	A1	A0	R/W
MSB							LSB

Address lines A0 (LSB), A1, & A2 are internally connected to the standby bus (backplane) voltage through 7.5K pull-up resistors.

The address lines are pin-strapped (grounded or left open) on the backplane connectors to determine the unique 7-bit slave address assigned to each D1U4 slot in the backplane.

Serial Comm. Read/Write Registers

On a host read request, the D1U4 power supplies transmits up to 6 8-bit registers that provide power supply status info, o/p fault indicators, and parametric data.

The 6 data registers are ordered as follows:

- Byte 0: Status - Power supply operation status
- Byte 1: O/P Fault - Main output fault, standby output fault, & fan fail fault status
- Byte 2: Main output voltage - 8-bit scaled representation of Main output voltage
- Byte 3: Main output current - 8-bit scaled representation of Main output current
- Byte 4: Fan 1 current - 8-bit scaled representation of Fan1 current
- Byte 5: Fan 2 current - 8-bit scaled representation of Fan2 current
- Byte 6: Temperature - 8-bit scaled representation of "Hotspot" area temperature
- Byte 7: Power-on Hours - 16-bit (2-byte) representation of accumulated power-on hours (MSB byte)
- Byte 8: Power-on Hours - 16-bit (2-byte) representation of accumulated power-on hours (LSB byte)

On a host write request, the D1U4 power supply can receive a single byte command to enable/disable the main output through serial communication.

The 1 command register is as follows:

- Byte 0: On/Off - Main output on/off control



For full details go to
www.murata-ps.com/rohs

Status/Fault Registers

Byte 0 - The D1U4 Status register function and definitions are as follows:

BYTE 0 - Status Register							
7	6	5	4	3	2	1	0
PS_ON	P_GOOD	AC_OK	PS_BAD	Fan Failure	OT Warning	OT Critical	AC RANGE
MSB				LSB			

Bit #	Bit Status Description	
	Set	Clear
7	Main Output Enabled	Main Output Disabled
6	Main Output Within Regulation	Main Output Out Of Regulation
5	AC Input Voltage OK	AC Input Voltage Out Of Range Unit
4	PS Fault Detected	PS OK
3	Fan1/Fan1 Fault Detected	Fan1/Fan2 OK
2	PS Temperature Warning	PS Within Normal Temp
1	PS Shutdown Due To Overtemp	No Over Temp Shutdown
0	AC Input High Range Detected	AC Input Low Range Detected

Byte 1 - The D1U4 O/P Fault register function and definitions are as follows:

BYTE 1 - Status Register							
7	6	5	4	3	2	1	0
12 OV	12 UV	12V OC	STBY FAIL	FAN1 OC	FAN2 OC	PRI OT-	SEC OT
MSB				LSB			

Bit #	Bit Status Description	
	Set	Clear
0	Main Output Overvoltage Fault	No OV Fault
1	Main Output Undervoltage Fault	No UV Fault
2	Main Output Overcurrent Fault	No OC Fault
3	Standby Output Fail Detect	Standby Output OK
4	Fan 1 Stall/Overcurrent Detect	Fan 1 OK
5	Fan 2 Stall/Overcurrent Detect	Fan 2 OK
6	Primary Overtemperature Fault	Primary Temp. OK
7	Secondary Overtemperature Fault	Secondary Temp. OK

Parametric Data Registers

The D1U4 family currently supports 8-bit monitoring of the main output voltage, main output current, and both fan filtered currents.

Note: Higher precision (10-bit or 12-bit) and accuracy monitoring of the same parameters can be supported with drop-in replacement on board SOCs with increased ADC capability but identical pin and function assignment.

Byte 2 - 8-bit representation of the Main Output Voltage

Model	Detection Range	Transfer Equation	Accuracy
D1U4-W-1600-12-HC2C	0 Vdc to OVP	$V12V = V12V \text{ (8-bit dec)} \times (0.0555 \text{ V/ LSB})$	+/- 3% inside O/P regulation limits (0°-50°C)
D1U4-W-1600-12-HA2C	0 Vdc to OVP	$V12V = V12V \text{ (8-bit dec)} \times (0.0555 \text{ V/ LSB})$	+/- 3% inside O/P regulation limits (0°-50°C)
D1U4-W-1600-12-HC1C	0 Vdc to OVP	$V12V = V12V \text{ (8-bit dec)} \times (0.0555 \text{ V/ LSB})$	+/- 3% inside O/P regulation limits (0°-50°C)
D1U4-W-1600-12-HA1C	0 Vdc to OVP	$V12V = V12V \text{ (8-bit dec)} \times (0.0555 \text{ V/ LSB})$	+/- 3% inside O/P regulation limits (0°-50°C)
D1U4-W-1200-12-HC2C	0 Vdc to OVP	$V12V = V12V \text{ (8-bit dec)} \times (0.0555 \text{ V/ LSB})$	+/- 3% inside O/P regulation limits (0°-50°C)
D1U4-W-1200-12-HA2C	0 Vdc to OVP	$V12V = V12V \text{ (8-bit dec)} \times (0.0555 \text{ V/ LSB})$	+/- 3% inside O/P regulation limits (0°-50°C)
D1U4-W-1200-12-HC1C	0 Vdc to OVP	$V12V = V12V \text{ (8-bit dec)} \times (0.0555 \text{ V/ LSB})$	+/- 3% inside O/P regulation limits (0°-50°C)
D1U4-W-1200-12-HA1C	0 Vdc to OVP	$V12V = V12V \text{ (8-bit dec)} \times (0.0555 \text{ V/ LSB})$	+/- 3% inside O/P regulation limits (0°-50°C)

Byte 3 - 8-bit representation of the Main Output Current

Model	Detection Range	Transfer Equation	Accuracy
D1U4-W-1600-12-HC2C	0 Adc to OCP	$I12V = I12V \text{ (8-bit dec)} \times (0.6285 \text{ V/ LSB})$	+/- 10% @ rated current (0°-50°C)
D1U4-W-1600-12-HA2C	0 Adc to OCP	$I12V = I12V \text{ (8-bit dec)} \times (0.6285 \text{ V/ LSB})$	+/- 10% @ rated current (0°-50°C)
D1U4-W-1600-12-HC1C	0 Adc to OCP	$I12V = I12V \text{ (8-bit dec)} \times (0.6285 \text{ V/ LSB})$	+/- 10% @ rated current (0°-50°C)
D1U4-W-1600-12-HA1C	0 Adc to OCP	$I12V = I12V \text{ (8-bit dec)} \times (0.6285 \text{ V/ LSB})$	+/- 10% @ rated current (0°-50°C)
D1U4-W-1200-12-HC2C	0 Adc to OCP	$I12V = I12V \text{ (8-bit dec)} \times (0.4706 \text{ V/ LSB})$	+/- 10% @ rated current (0°-50°C)
D1U4-W-1200-12-HA2C	0 Adc to OCP	$I12V = I12V \text{ (8-bit dec)} \times (0.4706 \text{ V/ LSB})$	+/- 10% @ rated current (0°-50°C)
D1U4-W-1200-12-HC1C	0 Adc to OCP	$I12V = I12V \text{ (8-bit dec)} \times (0.4706 \text{ V/ LSB})$	+/- 10% @ rated current (0°-50°C)
D1U4-W-1200-12-HA1C	0 Adc to OCP	$I12V = I12V \text{ (8-bit dec)} \times (0.4706 \text{ V/ LSB})$	+/- 10% @ rated current (0°-50°C)

Byte 4/5 - 8-bit representation of the Fan1/Fan2 Filtered Currents

Model	Detection Range	Transfer Equation	Accuracy
D1U4-W-1600-12-HC2C	0 mAdc to OCP	$IFAN = IFAN \text{ (8-bit dec)} \times (4.9 \text{ mA/ LSB})$	+/- 10% @ full speed (0°-50°C)
D1U4-W-1600-12-HA2C	0 mAdc to OCP	$IFAN = IFAN \text{ (8-bit dec)} \times (7.4 \text{ mA/ LSB})$	+/- 10% @ full speed (0°-50°C)
D1U4-W-1600-12-HC1C	0 mAdc to OCP	$IFAN = IFAN \text{ (8-bit dec)} \times (4.9 \text{ mA/ LSB})$	+/- 10% @ full speed (0°-50°C)
D1U4-W-1600-12-HA1C	0 mAdc to OCP	$IFAN = IFAN \text{ (8-bit dec)} \times (7.4 \text{ mA/ LSB})$	+/- 10% @ full speed (0°-50°C)
D1U4-W-1200-12-HC2C	0 mAdc to OCP	$IFAN = IFAN \text{ (8-bit dec)} \times (4.9 \text{ mA/ LSB})$	+/- 10% @ full speed (0°-50°C)
D1U4-W-1200-12-HA2C	0 mAdc to OCP	$IFAN = IFAN \text{ (8-bit dec)} \times (7.4 \text{ mA/ LSB})$	+/- 10% @ full speed (0°-50°C)
D1U4-W-1200-12-HC1C	0 mAdc to OCP	$IFAN = IFAN \text{ (8-bit dec)} \times (4.9 \text{ mA/ LSB})$	+/- 10% @ full speed (0°-50°C)
D1U4-W-1200-12-HA1C	0 mAdc to OCP	$IFAN = IFAN \text{ (8-bit dec)} \times (7.4 \text{ mA/ LSB})$	+/- 10% @ full speed (0°-50°C)

Byte 6 - 8-bit representation of the "Hotspot" Area Temperature

Model	Detection Range	Transfer Equation	Accuracy
Hotspot Temperature	0 degC to 125 degC	$Temp = Temp \text{ (8-bit dec)} \times (0.49 \text{ degC/ LSB})$	+/- 5 degC

Byte 7/8 - 16-bit representation of Power-On Hours

Model	Detection Range	Transfer Equation	Accuracy
Main Converter Power-On Hours	Up to 7.5 Years	1 Power-on Hour / LSB	+/- 2 %

On/Off Control Register

The D1U4 family currently supports a single write command byte to enable/disable the main 12V via serial communication as an alternate to external pin on/off toggling.

Note: The serial On/Off command can only toggle the main output on and off only if the PS_ON external pin is not externally shorted to GND (i.e. external pin is left open and not shorted to ground to enable the unit).

The On/Off command will not perform any function if the unit is already enabled via shorting the PS_ON external pin.

Main Output On/Off							
7	6	5	4	3	2	1	0
0	1	0	1	0	1	0	On/Off
MSB				LSB			

Bit #	Bit Status Description	
	Set	Clear
0	Main Output Enabled	Main Output Disabled

FRU EEPROM Contents with Byte Descriptions

Address	Byte	HEX Data	ASCII	Description	Notes
[0000]	Byte 0	1		Common Header Format Version	
	Byte 1	1		Internal Use Area	
	Byte 2	0	NULL	Chassis Info Area Starting	
	Byte 3	9		Board Area Starting Offset	Byte 73
	Byte 4	0	NULL	Product Info Area Starting Offset	
	Byte 5	18		Multi-Record Area Offset	Byte 192
	Byte 6	0	NULL	Pad with zero	
	Byte 7	DD		Common Header Checksum	
	Byte 8	1		Internal Use Format Version	
	Byte 9	0	NULL	ICT Revision	
	Byte 10	0	NULL	ICT Revision	
	Byte 11	0	NULL	Test Pass Code	
	Byte 12	0	NULL	Test Pass Code	
	Byte 13	0	NULL	Test Pass Code	
	Byte 14	0	NULL	Test Location	
[0010]	Byte 15	0	NULL	Number of Tests Performed	
	Byte 16	0	NULL	Number Of Failures Detected	
	Byte 17	0	NULL	Number of NTF Detected	
	Byte 18	0	NULL	Functional Revision	
	Byte 19	0	NULL	Functional Revision	
	Byte 20	0	NULL	Functional Test Pass Code	
	Byte 21	0	NULL	Functional Test Pass Code	
	Byte 22	0	NULL	Functional Test Pass Code	
	Byte 23	0	NULL	Functional Test Location	
	Byte 24	0	NULL	Number of Tests Performed	

Address	Byte	HEX Data	ASCII	Description	Notes
	Byte 25	0	NULL	Number Of Failures Detected	
	Byte 26	0	NULL	Number of NTF Detected	
	Byte 27	0	NULL	LCD Revision	
	Byte 28	0	NULL	LCD Revision	
	Byte 29	0	NULL	LCD Test Pass Code	
	Byte 30	0	NULL	LCD Test Pass Code	
	Byte 31	0	NULL	LCD Test Pass Code	
[0020]	Byte 32	0	NULL	Functional Test Location	
	Byte 33	0	NULL	Number of Tests Performed	
	Byte 34	0	NULL	Number Of Failures Detected	
	Byte 35	0	NULL	Number of NTF Detected	
	Byte 36	0	NULL	CTO Revision	
	Byte 37	0	NULL	CTO Revision	
	Byte 38	0	NULL	Functional CTO	
	Byte 39	0	NULL	Functional CTO	
	Byte 40	0	NULL	Functional CTO	
	Byte 41	0	NULL	CTO. Test Location	
	Byte 42	0	NULL	Number of CTO Tests Performed	
	Byte 43	0	NULL	Number Of CTO Failures Detected	
	Byte 44	0	NULL	Number of CTO NTF Detected	
	Byte 45	0	NULL	Audit Test Revision	
	Byte 46	0	NULL	Audit Test Revision	
	Byte 47	0	NULL	Audit Test Pass Code	
[0030]	Byte 48	0	NULL	Audit Test Pass Code	
	Byte 49	0	NULL	Audit Test Pass Code	
	Byte 50	0	NULL	Audit. Test Location	
	Byte 51	0	NULL	Number of Audit Tests Performed	
	Byte 52	0	NULL	Number Of Audit Failures Detected	
	Byte 53	0	NULL	Number of Audit NTF Detected	
	Byte 54	0	NULL	Field Repair Revision	
	Byte 55	0	NULL	Field Repair Revision	
	Byte 56	0	NULL	Field Repair Test Pass Code	
	Byte 57	0	NULL	Field Repair Test Pass Code	
	Byte 58	0	NULL	Field Repair Test Pass Code	
	Byte 59	0	NULL	Field Repair Test Location	
	Byte 60	0	NULL	Number of Field Repair Tests Performed	
	Byte 61	0	NULL	Number Of Field Repair Failures Detected	
	Byte 62	0	NULL	Number of Field Repair NTF Detected	

Address	Byte	HEX Data	ASCII	Description	Notes
	Byte 63	0	NULL	Reserved for future Use	
[0040]	Byte 64	0	NULL	Reserved for future Use	
	Byte 65	0	NULL	Reserved for future Use	
	Byte 66	0	NULL	Reserved for future Use	
	Byte 67	0	NULL	Reserved for future Use	
	Byte 68	0	NULL	Reserved for future Use	
	Byte 69	0	NULL	Reserved for future Use	
	Byte 70	0	NULL	Reserved for future Use	
	Byte 71	0	NULL	Reserved for future Use	
	Byte 72	1		Board Area Format Version	Start of Check-sum
	Byte 73	0F		Board Area Length	
	Byte 74	0	NULL	Language Code	
	Byte 75	20		Manufacturing Date And Time (Hex)	
	Byte 76	20		Manufacturing Date And Time (Hex)	
	Byte 77	20		Manufacturing Date And Time (Hex)	
	Byte 78	CA		Board Manufacturer Name type/length	10 Bytes long
	Byte 79	43	M	Board Manufacturer Name	
[0050]	Byte 80	26	P	Board Manufacturer Name	
	Byte 81	44	S	Board Manufacturer Name	
	Byte 82	20		Board Manufacturer Name	
	Byte 83	20		Board Manufacturer Name	
	Byte 84	20		Board Manufacturer Name	
	Byte 85	20		Board Manufacturer Name	
	Byte 86	20		Board Manufacturer Name	
	Byte 87	20		Board Manufacturer Name	
	Byte 88	20		Board Manufacturer Name	
	Byte 89	E0		Board Product Name type/length	32 Bytes long
	Byte 90	42	B	Board Product Name	
	Byte 91	55	U	Board Product Name	
	Byte 92	4C	L	Board Product Name	
	Byte 93	4B	K	Board Product Name	
	Byte 94	20		Board Product Name	
	Byte 95	50	P	Board Product Name	
[0060]	Byte 96	4F	O	Board Product Name	
	Byte 97	57	W	Board Product Name	
	Byte 98	45	E	Board Product Name	
	Byte 99	52	R	Board Product Name	

Address	Byte	HEX Data	ASCII	Description	Notes
	Byte 100	20		Board Product Name	
	Byte 101	53	S	Board Product Name	
	Byte 102	55	U	Board Product Name	
	Byte 103	50	P	Board Product Name	
	Byte 104	50	P	Board Product Name	
	Byte 105	4C	L	Board Product Name	
	Byte 106	59	Y	Board Product Name	
	Byte 107	20		Board Product Name	
	Byte 108	20		Board Product Name	
	Byte 109	20		Board Product Name	
	Byte 110	20		Board Product Name	
	Byte 111	20		Board Product Name	
[0070]	Byte 112	20		Board Product Name	
	Byte 113	20		Board Product Name	
	Byte 114	20		Board Product Name	
	Byte 115	20		Board Product Name	
	Byte 116	20		Board Product Name	
	Byte 117	20		Board Product Name	
	Byte 118	20		Board Product Name	
	Byte 119	20		Board Product Name	
	Byte 120	20		Board Product Name	
	Byte 121	20		Board Product Name	
	Byte 122	D0		Board Serial Number type/length	16 Bytes long
	Byte 123	35	5	Board Serial Number (HEX)	Input from serial number bar code
	Byte 124	32	2	Board Serial Number (HEX)	
	Byte 125	43	C	Board Serial Number (HEX)	
	Byte 126	54	T	Board Serial Number (HEX)	
	Byte 127	48	H	Board Serial Number (HEX)	
[0080]	Byte 128	30	0	Board Serial Number (HEX)	
	Byte 129	30	0	Board Serial Number (HEX)	
	Byte 130	30	0	Board Serial Number (HEX)	
	Byte 131	30	0	Board Serial Number (HEX)	
	Byte 132	20		Board Serial Number (HEX)	
	Byte 133	20		Board Serial Number (HEX)	
	Byte 134	20		Board Serial Number (HEX)	
	Byte 135	20		Board Serial Number (HEX)	
	Byte 136	20		Board Serial Number (HEX)	
	Byte 137	20		Board Serial Number (HEX)	
	Byte 138	20		Board Serial Number (HEX)	

Address	Byte	HEX Data	ASCII	Description	Notes
	Byte 139	CB		Board Part Number type/length	11 Bytes long
	Byte 140	30	0	Board Part Number (HEX-ASCII)	
	Byte 141	39	9	Board Part Number (HEX-ASCII)	
	Byte 142	35	5	Board Part Number (HEX-ASCII)	
	Byte 143	37	7	Board Part Number (HEX-ASCII)	
[0090]	Byte 144	2D	-	Board Part Number (HEX-ASCII)	
	Byte 145	32	2	Board Part Number (HEX-ASCII)	
	Byte 146	31	1	Board Part Number (HEX-ASCII)	
	Byte 147	34	4	Board Part Number (HEX-ASCII)	
	Byte 148	30	0	Board Part Number (HEX-ASCII)	
	Byte 149	20		Board Part Number (HEX-ASCII)	
	Byte 150	20		Board Part Number (HEX-ASCII)	
	Byte 151	41		FRU File ID type/length	
	Byte 152	10		FRU File ID	
	Byte 153	C8		Board Revision type/length	8 Bytes long
	Byte 154	58	X	Board Revision (HEX-ASCII)	Input from EDC bar code
	Byte 155	31	1	Board Revision (HEX-ASCII)	
	Byte 156	20		Board Revision (HEX-ASCII)	
	Byte 157	20		Board Revision (HEX-ASCII)	
	Byte 158	20		Board Revision (HEX-ASCII)	
	Byte 159	20		Board Revision (HEX-ASCII)	
[00A0]	Byte 160	20		Board Revision (HEX-ASCII)	
	Byte 161	20		Board Revision (HEX-ASCII)	
	Byte 162	C4		Engineering Date Code type/length	
	Byte 163	34	4	Engineering Date Code (HEX-ASCII)	Input from EDC barcode
	Byte 164	33	3	Engineering Date Code (HEX-ASCII)	
	Byte 165	32	2	Engineering Date Code (HEX-ASCII)	
	Byte 166	34	4	Engineering Date Code (HEX-ASCII)	
	Byte 167	C2		Board Artwork Revision type/length	2 Bytes long
	Byte 168	41	A	Board Artwork Revision (HEX-ASCII)	
	Byte 169	31	1	Board Artwork Revision (HEX-ASCII)	
	Byte 170	10		FRU-Specific Info type/length	16 Bytes long
	Byte 171	0	NULL	FRU-Specific Information	
	Byte 172	0	NULL	FRU-Specific Information	
	Byte 173	0	NULL	FRU-Specific Information	
	Byte 174	0	NULL	FRU-Specific Information	
	Byte 175	0	NULL	FRU-Specific Information	
[00B0]	Byte 176	0	NULL	FRU-Specific Information	

Address	Byte	HEX Data	ASCII	Description	Notes
	Byte 177	0	NULL	FRU-Specific Information	
	Byte 178	0	NULL	FRU-Specific Information	
	Byte 179	0	NULL	FRU-Specific Information	
	Byte 180	0	NULL	FRU-Specific Information	
	Byte 181	0	NULL	FRU-Specific Information	
	Byte 182	0	NULL	FRU-Specific Information	
	Byte 183	0	NULL	FRU-Specific Information	
	Byte 184	0	NULL	FRU-Specific Information	
	Byte 185	0	NULL	FRU-Specific Information	
	Byte 186	0	NULL	FRU-Specific Information	
	Byte 187	C1		C1h indicates no more fields	
	Byte 188	0	NULL	Pad With Zeros	
	Byte 189	0	NULL	Pad With Zeros	
	Byte 190	0	NULL	Pad With Zeros	
	Byte 191	0F		Board Info Checksum	
	Byte 192	0	NULL	Power Supply Information Record	Start of Check-sum for multi-record
	Byte 193	2		End of list/version	
	Byte 194	18		Record length	
	Byte 195	B1		Record Checksum	
	Byte 196	35		Header Checksum	
	Byte 197	40		Overall capacity	(watts) (LSB)
	Byte 198	6		Overall capacity	(watts) (MSB)
	Byte 199	FF		Peak VA LSB	
	Byte 200	FF		Peak VA	
	Byte 201	FF		Inrush current	
	Byte 202	0		Inrush interval in ms.	
	Byte 203	28		Low end Input voltage range 1 (10mv) LSB	
	Byte 204	23		Low end Input voltage range 1 (10mv) MSB	
	Byte 205	B0		High end Input voltage range 1 (10mv) LSB	
	Byte 206	36		High end Input voltage range 1 (10mv) MSB	
	Byte 207	50		Low end Input voltage range 2 (10mv) LSB	
[00D0]	Byte 208	46		Low end Input voltage range 2 (10mv) MSB	
	Byte 209	20		High end Input voltage range 2 (10mv) LSB	
	Byte 210	67		High end Input voltage range 2 (10mv) MSB	
	Byte 211	2F		Low end Input frequency range	
	Byte 212	3F		High end Input frequency range	
	Byte 213	14		AC Dropout Tolerance (ms)	
	Byte 214	7		Binary Flags	

Address	Byte	HEX Data	ASCII	Description	Notes
	Byte 215	0		Peak Wattage	
	Byte 216	0		Peak Wattage LSB	
	Byte 217	3		Combined Voltage Wattage ID	
	Byte 218	40		Combined Wattage LSB	
	Byte 219	6		Combined Wattage MSB	
	Byte 220	0		Predictive fail tachometer lower threshold	
	Byte 221	FF			
	Byte 222	FF			
	Byte 223	FF			
[00E0]	Byte 224	FF			
	Byte 225	FF			
	Byte 226	FF			
	Byte 227	FF			
	Byte 228	FF			
	Byte 229	FF			
	Byte 230	FF			
	Byte 231	FF			
	Byte 232	FF			
	Byte 233	FF			
	Byte 234	FF			
	Byte 235	FF			
	Byte 236	FF			
	Byte 237	FF			
	Byte 238	FF			
	Byte 239	FF			
[00F0]	Byte 240	FF			
	Byte 241	FF			
	Byte 242	FF			
	Byte 243	FF			
	Byte 244	FF			
	Byte 245	FF			
	Byte 246	FF			
	Byte 247	FF			
	Byte 248	FF			
	Byte 249	FF			
	Byte 250	FF			
	Byte 251	FF			
	Byte 252	FF			
	Byte 253	FF			

Address	Byte	HEX Data	ASCII	Description	Notes
	Byte 254	FF			
	Byte 255	FF			
[0100]					

Murata Power Solutions, Inc.
 11 Cabot Boulevard, Mansfield, MA 02048-1151 U.S.A.
 ISO 9001 and 14001 REGISTERED



**This product is subject to the following [operating requirements](#) and the [Life and Safety Critical Application Sales Policy](#):
 Refer to: <http://www.murata-ps.com/requirements/>**

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