

TECHNICAL BULLETIN

[Issue No.] T99-0030-D

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[Title] SEMI-F47 compliance requirements for Mitsubishi programmable controllers and GOTs

[Date of Issue] June 2003 (Ver. D: October 2014)

[Relevant Models] Power supply modules for MELSEC-A/AnS/QnA/QnAS/Q/L series and MELSEC iQ-R series, and GOT-A900/1000/2000 series

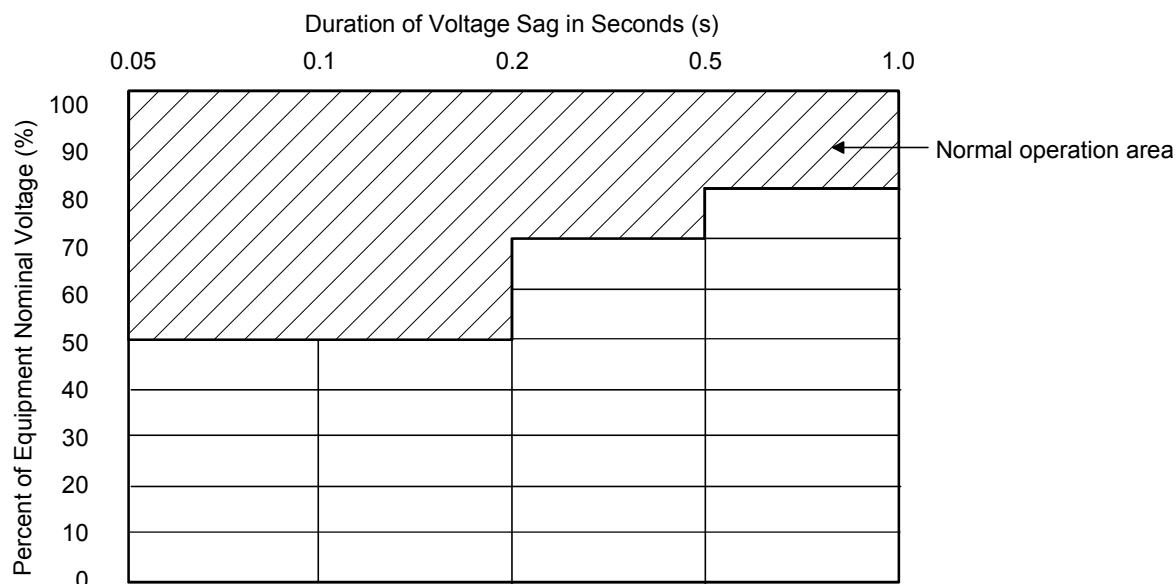
This bulletin outlines the requirements for the above products to be compliant with the SEMI-F47 standard.

1. SEMI-F47

Semiconductor processing equipment requires high levels of power supply quality, as it is vulnerable to voltage sags, i.e., voltage dip in a semiconductor-manufacturing factory.

The SEMI-F47 standard specifies the voltage sag ride-through capability that is needed for semiconductor processing, metrology and automated test equipment.

Seconds (s)	Voltage Sag Duration		Voltage sag
	Cycles at 60Hz	Cycles at 50Hz	Percent (%) of Equipment nominal voltage
< 0.05s	3 cycles	< 2.5 cycles	Not specified
0.05 to 0.2s	3 to 12 cycles	2.5 to 10 cycles	50%
0.2 to 0.5s	12 to 30 cycles	10 to 25 cycles	70%
0.5 to 1.0s	30 to 60 cycles	25 to 50 cycles	80%
> 1.0s	> 60 cycles	> 50 cycles	Not specified



SEMI-F47 defines that equipment must be able to continue to operate without interruption during voltage sags shown in the above shaded area (voltage sag ride-through capability).

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2. Relevant Models

○: Applicable, ×: N/A

Product name	Model	Applicability	Note
Power supply module for MELSEC-A/QnA series	A61P, A61PEU, A62P, A62PEU, A65P, A66P, A67P, A68P	×	*2
	A61PN, A61RP		—
Power supply module for MELSEC-AnS/QnAS series	A1S61PN, A1S62PN	○	*1
	A1SJHCPU (CPU integrated with power supply and base)	×	—
	A0J2HCPU, A1FXCPU, A2CCPU, A2CJCPU-S3, A2CCPUP21, A2CCPUR21, A2CCPUC24, A2CCPUC24-PRF (CPU integrated with power supply and base), A66PC, A2CJ66P		*2
Power supply module for MELSEC-Q series	Q61P, Q61P-D, Q62P, Q64PN, Q64RPN, Q61SP, Q00JCPU (CPU integrated with power supply and base), Q00UJCPU (CPU integrated with power supply and base)	○	*1
	Q61P-A1, Q61P-A2	×	*2
	Q64P		—
Power supply module for MELSEC-QS series	QS061P-A1, QS061P-A2	×	—
Power supply module for MELSEC-L series	L61P	○	*1
Power supply module for MELSEC iQ-R series	R61P	○	*1
GOT-A900 series	A985GOT-TBA-V, A985GOT-TBA, A985GOT-TBA-EU, A975GOT-TBA-B, A975GOT-TBA, A975GOT-TBA-EU, A970GOT-TBA-B, A970GOT-TBA, A970GOT-TBA-EU, A970GOT-SBA, A970GOT-SBA-EU, A970GOT-LBA, A970GOT-LBA-EU, A960GOT-EBA, A960GOT-EBA-EU	○	*1 *2
GOT1000 series	GT1595-XTBA, GT1585V-STBA, GT1585-STBA, GT1575V-STBA, GT1575-STBA, GT1575-VTBA, GT1575-VNBA, GT1572-VNBA, GT1565-VTBA, GT1562-VNBA, GT1695M-XTBA, GT1685M-STBA, GT1675M-STBA, GT1675M-VTBA, GT1665M-STBA, GT1665M-VTBA, GT1675-VNBA, GT1672-VNBA, GT1662-VNBA, GT1265-VNBA, GT1275-VNBA	○	*1
GOT2000 series	GT2715-XTBA, GT2712-STBA, GT2712-STWA, GT2710-STBA, GT2710-VTBA, GT2710-VTWA, GT2708-STBA, GT2708-VTBA, GT2510-VTBA, GT2510-VTWA, GT2508-VTBA, GT2508-VTWA, GT2310-VTBA, GT2308-VTBA	○	*1

*1: Applicable only for 200V AC input

*2: Discontinued models

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3. Compliance with SEMI-F47

The models shown as “applicable” in “2. Relevant Modules” are compliant with SEMI-F47 only when they are used with an input power of 200V AC.

To use an applicable model with an input power of 100V AC or an inapplicable model and to ensure the compliance with SEMI-F47, configure the programmable controller system using an interruptible power supply (UPS) so that power will be supplied through the UPS. Use an on-line UPS with voltage distortion of 5% or less.

If no UPS is used in the system, such a model is not compliant with SEMI-F4 because detection of AC failure or a reset may occur during voltage sag, causing an initial start.

(1) On-line UPS

(a) FREQUPS-V series (applicable to all power supply modules)

(2) Other than on-line UPS

(a) FREQUPS-A series (applicable to all power supply modules)

(b) FREQUPS-F series (applicable to all power supply modules) *1

*1: Applicable by doing the relevant programmable controller settings. MELSEC-Q series and MELSEC iQ-R series can be used together with the FREQUPS-F series with serial number P or later.

REVISIONS

Version	Print Date	Revision
–	June 2003	First edition
A	June 2003	Corrected scribal errors.
B	May 2010	<ul style="list-style-type: none">● Revised “2. Relevant Models”.● Revised “3. Compatibility”.
C	July 2014	<ul style="list-style-type: none">● Added MELSEC iQ-R series to “Relevant Models”.● Added MELSEC iQ-R series to “2. Relevant Models”.● Added MELSEC iQ-R series to “3. Compliance with SEMI-F47”.
D	October 2014	<ul style="list-style-type: none">● Added GOT2000 series to “Relevant Models”.● Added GOT2000 series and Q64RPN to “2. Relevant Models”.