

# TECHNICAL BULLETIN

**[Issue No.]** T99-0030-A

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**[Title]** SEMI-F47 compliance requirements for Mitsubishi PLC and GOT

**[Date of Issue]** June, '03

**[Relevant Models]** Power Supply Modules for MELSEC-A/AnS/QnA/QnAS/Q Series and GOT-A900 Series

Thank you for your continued support of Mitsubishi programmable logic controllers and Graphic Operation Terminal.

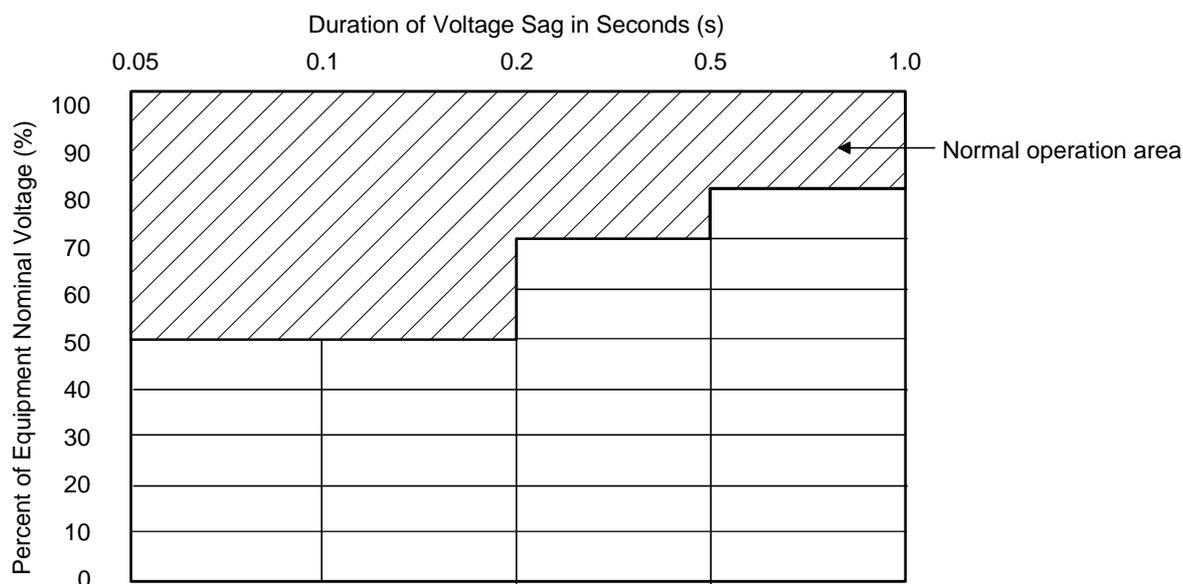
This bulletin outlines the requirements for the above products to be compliant with SEMI-F47 standard.

## 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.

SEMI-F47 standard is formulated to specify the voltage sag ride-through capability that is needed for the semiconductor processing, metrology and auto-inspection equipment.

Seconds (s)	Voltage Sag Duration		Voltage sag Percent (%) of Equipment nominal voltage
	Cycles at 60Hz	Cycles at 50Hz	
< 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 the equipment must continue to operate (voltage sag ride-through capability) without interrupt during voltage sags above the line (upward diagonal line area).

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## 2. Relevant Models

Product name	Model	Applicability
Power supply module for MELSEC-A/MESEC-QnA Series	A61P, A61PEU, A62P, A62PEU, A65P, A66P, A67P, A68P	N/A
Power supply module for MELSEC-AnS/MESEC-QnAS Series	A1S61PN, A1S62PN	Applicable <sup>*1</sup>
	A1SJHCPU (CPU integrated with power supply and base), A0J2HCPU, A1FXCPU, A2CCPU, A2CJCPU-S3, A2CCPUP21, A2CCPUR21, A2CCPUC24, A2CCPUC24-PRF (CPU integrated with power supply), A66PC, A2CJ66P	N/A
Power supply module for MELSEC-Q Series	Q62P, Q61SP, Q00JCPU (CPU integrated with power supply and base)	Applicable <sup>*1</sup>
	Q61P-A1, Q61P-A2, Q64P	N/A
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,	Applicable <sup>*1</sup>

<sup>\*1</sup>: Applicable only for 200V AC input

## 3. Compatibility

The following modules, A1S61PN, A1S62PN, Q62P, Q61SP, Q00JCPU and GOT-A900 Series have an input range between 100V AC and 200V AC. Therefore, if they are used with an input power supply of 200V AC, then the modules are compliant to SEMI-F47 as they can sustain the voltage sag, without necessarily using a UPS. However, if these modules are used with an input power supply of 100V AC, then a UPS must be used, as to sustain the nominal voltage susceptible to voltage sag, which may cause an AC down error in the power supply module.

(For on-line UPS, select the product with a voltage distortion of 5% or less.)

Following shows the applicable Mitsubishi UPS.

(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) <sup>\*1</sup>

<sup>\*1</sup>: Applicable by doing the relevant PLC settings. MELSEC-Q Series can be used together with the FREQUPS-F Series with serial number P or later.



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