

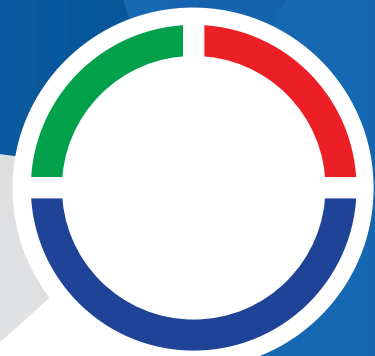
YASKAWA

HV600 Drive

AC Drive for HVAC Fan and Pump Applications Manual Supplement

Affected
documents:

HV600 Installation & Primary Operation (TOEPC71061732)
HV600 Technical Reference (SIEPC71061732)
**HV600 Quick Setup Procedures (TOEPC71061774, TOEPC71061775,
TOEPC71061776)**



Simplify drive start-up
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1 Supplemental Information - Applicable Documents

The contents of this supplement apply to the product instructions in [Table 1.1](#).

Table 1.1 Affected Documents

Drive Series	Document
HV600	Installation & Primary Operation (TOEPC71061732)
	Technical Reference (SIEPC71061732)
	Quick Setup Procedure (TOEPC71061774)
	Quick Setup Procedure (TOEPC71061775)
	Quick Setup Procedure for IP55/UL Type 12 (TOEPC71061776)

2 Short Circuit Protection Requirements for UL Listing

⚠ WARNING *Electrical Shock Hazard. After the input protective device trips, do not immediately energize the drive or operate peripheral devices. Wait for the time specified on the warning label at a minimum and make sure that all indicators are OFF. Then check the wiring and peripheral device ratings to find the cause of the problem. If you do not know the cause of the problem, contact Yaskawa before you energize the drive or peripheral devices. If you do not fix the problem before you operate the drive or peripheral devices, it can cause serious injury or death.*

◆ UL Compliance

Install one of the types of short circuit protection devices in [Table 2.1](#) or [Table 2.2](#) to comply with UL 508C. Semiconductor protective type fuses are recommended, but the tables also show alternative short circuit protection devices.

■ Molded Case Circuit Breaker (MCCB) Ratings

- Maximum MCCB rating is 250% of the drive full load output amp (FLA) rating.
- When you use MCCBs you must mount the drive in a ventilated enclosure according to the minimum enclosure volume specified in this document.

Note:

When you use MCCBs, current limiting type are recommended, but not required.

■ Semiconductor Fuse Ratings

- When you use semiconductor fuses as UL listed drive protection, the drives and fuses must be in the same enclosure.

■ Non-Semiconductor Fuse Ratings

- Maximum CC, J, or T fuse rating is 175% of the drive full load output amp (FLA) rating.

■ Short Circuit Current Rating (SCCR)

The maximum SCCR provided by drive and fuse, or drive and MCCB combinations in this document, is 100,000 RMS symmetrical amps.

- **240 V models:** Use the protection specified in this document to prepare the drive for use on a circuit capable of delivering not more than 100,000 RMS symmetrical amps and not more than 240 Vac.
- **480 V models:** Use the protection specified in this document to prepare the drive for use on a circuit capable of delivering not more than 100,000 RMS symmetrical amps and not more than 480 Vac.

■ Electric Code Compliance

The user must provide short circuit protection to protect input branch circuits as specified by the National Electric Code (NEC), the Canadian Electric Code, Part 1 (CEC), and local codes.

■ Required Short Circuit Protection

Table 2.1 Required Short Circuit Protection for HV600 AC Drives (240 V Class)

Protected Enclosure Not Required			Ventilated Protected Enclosure Required		
Drive Catalog Code HV600U	Semiconductor Fuse Part Number <i>Manufacturer: Eaton/ Bussman</i>	Class CC, J, or T Fuse * / Maximum Amps	MCCB Maximum Amps	MCP Part Number <i>Manufacturer: Schneider</i>	Enclosure Volume Minimum (in ³)
Three-phase 240 V Class					
2011	FWH-40B	17.5	25	HLL36030M71	3056
2017	FWH-45B	25	40	HLL36030M71	3056
2024	FWH-80B	40	60	HLL36050M72	3056
2031	FWH-125B	50	75	HLL36050M72	3056
2046	FWH-125B	80	110	HLL36100M73	5520
2059	FWH-175B	100	125	HLL36100M73	5520
2075	FWH-200B	125	175	HLL36150M74	5520
2088	FWH-225A	150	200	HLL36150M74	5520
2114	FWH-225A	200	250	HLL36150M74	5520
2143	FWH-250A	250	350	JLL36250M75	14657
2169	FWH-275A	250	400	JLL36250M75	14657
2211	FWH-600A	350	500	LLL36400M37X	14657
2273	FWH-800A	450	600	LLL36400M37X	14657

*1 Class T fuses are fast-acting (non-time-delay) only. You can substitute a Class J time-delay fuse for a Class J non-time-delay fuse.

Table 2.2 Required Short Circuit Protection for HV600 AC Drives (480 V Class)

Protected Enclosure Not Required			Ventilated Protected Enclosure Required			
Drive Catalog Code HV600U	Semiconductor Fuse Part Number <i>Manufacturer: Eaton/ Bussman</i>	Class CC, J, or T Fuse * / Maximum Amps	MCCB Maximum Amps	MCP Part Number <i>Manufacturer: Schneider</i>	Enclosure Volume Minimum (in ³)	
					External Heatsink	Internal Heatsink
Three-phase 480 V Class						
4005	FWH-25A14F	8	15	HLL36030M71	3056	3056
4006	FWH-30A14F	9	15	HLL36030M71	3056	3056
4008	FWH-30A14F	12	15	HLL36030M71	3056	3056
4011	FWH-40B	17.5	25	HLL36030M71	3056	3056
4014	FWH-45B	20	35	HLL36030M71	3056	3056
4021	FWH-60B	35	50	HLL36030M71	3056	3056
4027	FWH-80B	45	60	HLL36050M72	3056	3056

2 Short Circuit Protection Requirements for UL Listing

Protected Enclosure Not Required			Ventilated Protected Enclosure Required			
Drive Catalog Code HV60U	Semiconductor Fuse Part Number <i>Manufacturer: Eaton/ Bussman</i>	Class CC, J, or T Fuse ^{*1} Maximum Amps	MCCB Maximum Amps	MCP Part Number <i>Manufacturer: Schneider</i>	Enclosure Volume Minimum (in ³)	
					External Heatsink	Internal Heatsink
4034	FWH-100B	60	80	HLL36050M72	3056	3056
4040	FWH-125B	70	100	HLL36100M73	5520	5520
4052	FWH-150B	90	125	HLL36100M73	5520	5520
4065	FWH-200B	110	150	HLL36100M73	5520	5520
4077	FWH-225A	125	175	HLL36100M73	5520	5520
4096	FWH-225A	150	225	HLL36150M74	5520	5520
4124	FWH-225A	200	300	JLL36250M75	5520	5520
4156	FWH-325A	250	350	JLL36250M75	21582	14657
4180	FWH-500A	300	450	JLL36250M75	52800 ^{*2}	14657
4240	FWH-600A	400	600	LLL36400M37X	52800 ^{*2}	14657
4302	FWH-700A	500	700	LLL36400M37X	52800 ^{*2}	52800

*1 Class T fuses are fast-acting (non-time-delay) only. You can substitute a Class J time-delay fuse for a Class J non-time-delay fuse.

*2 External heatsink installations on models 4180, 4240, and 4302 require a heatsink shroud and filter.

Revision History

Date of Publication	Revision Number	Revised Content
August 2021	-	First release

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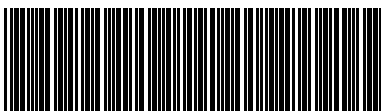
In the event that the end user of this product is to be the military and said product is to be employed in any weapons systems or the manufacture thereof, the export will fall under the relevant regulations as stipulated in the Foreign Exchange and Foreign Trade Regulations. Therefore, be sure to follow all procedures and submit all relevant documentation according to any and all rules, regulations and laws that may apply.

Specifications are subject to change without notice for ongoing product modifications and improvements.

Original Instructions

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