

YASKAWA



HV600

The Quality Drive for Commercial HVAC Applications

Technical Data Sheet

CIPR-HV60Cxxxxxxxx

400 V Class, Three-Phase Input: 1.5 to 160 kW
200 V Class, Three-Phase Input: 2.2 to 75 kW

yaskawa.eu

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Introduction

The HV600 is specifically designed to meet the efficiency, control, and reliability demands of the global HVAC market, making it ideal for applications such as fans, pumps, and compressors in modern building automation systems.

Control for a wide variety of motor types, combined with mobile device programming and clear status indication, makes the HV600 an efficient and reliable choice for smart building control.

The HV600 includes built-in pump-dedicated functions such as single failure-proof booster pump control, deadhead protection, loss of prime detection, and various other pump system protection features. Its Network Multiplexing function enables multiple drives to communicate and share data seamlessly over a single network, while the Emergency Override function ensures uninterrupted airflow in critical situations.

With advanced motor control algorithms, the HV600 ensures quiet operation, optimized energy usage, and smooth regulation across HVAC components. It supports both Induction and Permanent Magnet motors, making it suitable for new installations and retrofit projects.

Intelligent features such as built-in EMC filters, real-time diagnostics, and flexible communication options ensure seamless integration into modern building automation systems.



Drive Selection

HV600 drives must be selected according to power supply voltage, motor rated current, load profile of the application, and ambient condition of the environment they are operated in.

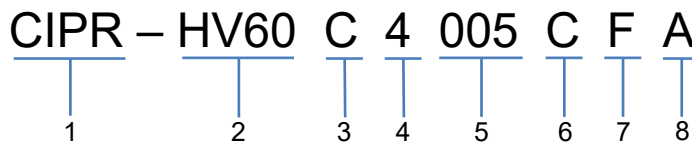
Examine the drive for damage. Immediately contact the shipping company if the drive is damaged. The Yaskawa warranty does not cover damage from shipping.

Verify the drive model number to make sure that you received the correct model. Verify the model number in the "MODEL" section of the drive nameplate to make sure that you received the correct model.

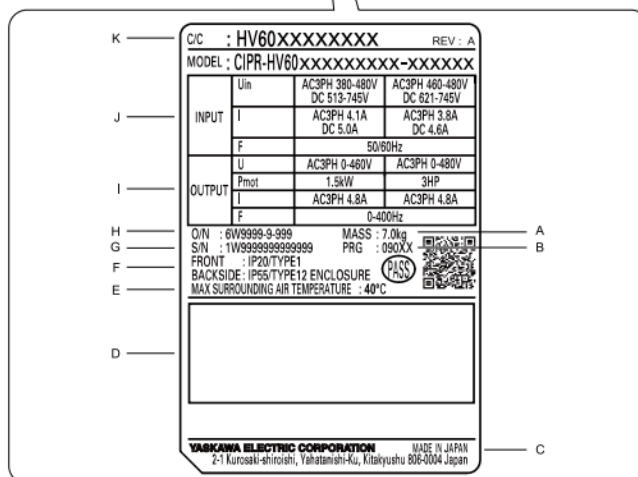
If you received a product different than you ordered or a product with a defect, contact Yaskawa or your nearest sales representative.

How to Read Model Numbers

The following diagram and table describe how to read model number of the drive.



No.	Description
1	Drive Series
2	Product Series HV60: HV600
3	Region code U: the Americas C: Europe T: Asia (Singapore and India)
4	Input power supply voltage 2: Three-Phase 200 Vac to 240 Vac 4: Three-Phase 380 Vac to 480 Vac
5	Rated output current Note: See ratings table
6	EMC filter C: Built-in EMC filter category C2
7	Protection design B: IP20/UL Open Type F: IP20/UL Type 1 V: IP55/UL Type 12
8	Environmental specification A: Standard



- A - Weight**
- B - Drive software version**
- C - The address of the head office of Yaskawa Electric Corporation**
- D - Accreditation standards**
- E - Surrounding air temperature**
- F - Protection design**
- G - Serial number**
- H - Lot number**
- I - Output specifications**
- J - Input specifications**
- K - Catalog code**

List of Models (3 x 400V)

Model CIPR-HV60C...	Power	Rated Output Current	Model Code (IP20)	SAP # (IP20)	Model Code (IP55)	SAP # (IP55)
4005	1.5 kW	4.8 A	HV60C4005CFA	10120275	HV60C4005CVA	10120276
4006	2.2 kW	5.4 A	HV60C4006CFA	10120277	HV60C4006CVA	10120278
4008	3 kW	7.6 A	HV60C4008CFA	10120279	HV60C4008CVA	10120280
4011	4 kW	11 A	HV60C4011CFA	10120281	HV60C4011CVA	10120282
4014	5.5 kW	14 A	HV60C4014CFA	10120283	HV60C4014CVA	10120284
4021	7.5 kW	21 A	HV60C4021CFA	10120285	HV60C4021CVA	10120286
4027	11 kW	27 A	HV60C4027CFA	10120287	HV60C4027CVA	10120288
4034	15 kW	34 A	HV60C4034CFA	10120289	HV60C4034CVA	10120290
4040	18.5 kW	40 A	HV60C4040CFA	10120291	HV60C4040CVA	10120292
4052	22 kW	52 A	HV60C4052CFA	10120293	HV60C4052CVA	10120294
4065	30 kW	65 A	HV60C4065CFA	10120295	HV60C4065CVA	10120296
4077	37 kW	77 A	HV60C4077CFA	10120297	HV60C4077CVA	10120298
4096	45 kW	96 A	HV60C4096CFA	10120299	HV60C4096CVA	10120300
4124	55 kW	124 A	HV60C4124CFA	10120301	HV60C4124CVA	10120302
4156	75 kW	156 A	HV60C4156CFA	10120303	HV60C4156CVA	10120304
4180	90 kW	180 A	HV60C4180CFA	10120305	-	-
4240	110 kW	240 A	HV60C4240CFA	10120306	-	-
4302	160 kW	302 A	HV60C4302CFA	10120307	-	-

List of Models (3 x 200V)

Model CIPR-HV60C...	Power	Rated Output Current	Model Code (IP20)	SAP # (IP20)	Model Code (IP55)	SAP # (IP55)
2011	2.2 kW	10.6 A	HV60C2011CFA	10120251	HV60C2011CVA	10120252
2017	4 kW	16.7 A	HV60C2017CFA	10120253	HV60C2017CVA	10120254
2024	5.5 kW	24.2 A	HV60C2024CFA	10120255	HV60C2024CVA	10120256
2031	7.5 kW	30.8 A	HV60C2031CFA	10120257	HV60C2031CVA	10120258
2046	11 kW	46.2 A	HV60C2046CFA	10120259	HV60C2046CVA	10120260
2059	15 kW	59.4 A	HV60C2059CFA	10120261	HV60C2059CVA	10120262
2075	18.5 kW	74.8 A	HV60C2075CFA	10120263	HV60C2075CVA	10120264
2088	22 kW	88 A	HV60C2088CFA	10120265	HV60C2088CVA	10120266
2114	30 kW	114 A	HV60C2114CFA	10120267	HV60C2114CVA	10120268
2143	37 kW	143 A	HV60C2143CFA	10120269	HV60C2143CVA	10120270
2469	45 kW	169 A	HV60C2469CFA	10120271	HV60C2169CVA	10120272
2211	55 kW	211 A	HV60C2211CFA	10120273	-	-
2273	75 kW	273 A	HV60C2273CFA	10120274	-	-

General specification

Item	Specification
Control Method	<ul style="list-style-type: none"> V/f Control (V/f) PM Open Loop Vector Control (OLV/PM) EZ Open Loop Vector Control (EZOLV)
Frequency Control Range	V/f and OLV/PM: 0.01 Hz to 400 Hz EZOLV: 0.01 Hz to 120 Hz
Frequency Accuracy (Temperature Fluctuation)	Digital inputs: Within $\pm 0.01\%$ of the maximum output frequency ($-10\text{ }^{\circ}\text{C}$ to $+40\text{ }^{\circ}\text{C}$ ($14\text{ }^{\circ}\text{F}$ to $104\text{ }^{\circ}\text{F}$)) Analog inputs: Within $\pm 0.1\%$ of the maximum output frequency ($25\text{ }^{\circ}\text{C} \pm 10\text{ }^{\circ}\text{C}$ ($77\text{ }^{\circ}\text{F} \pm 18\text{ }^{\circ}\text{F}$))
Frequency Setting Resolution	Digital inputs: 0.01 Hz Analog inputs: 1/2048 of the maximum output speed (11-bit)
Output Frequency Resolution	0.001 Hz
Frequency Setting Signal	Main speed reference: 0 Vdc to 10 Vdc (20 k Ω), 4 mA to 20 mA (250 Ω), 0 mA to 20 mA (250 Ω)
Starting Torque	<ul style="list-style-type: none"> V/f: 140%/3 Hz OLV/PM: 100%/10% speed EZOLV: 100%/10% speed
Speed Control Range	<p>For Induction Motors:</p> <ul style="list-style-type: none"> V/f Control (V/f): 1:40 EZ Vector Control (EZOLV): 1:10 <p>For Permanent Magnet Motors and Synchronous Reluctance Motors:</p> <ul style="list-style-type: none"> PM Open Loop Vector Control (OLV/PM): 1:20 EZ Vector Control (EZOLV): 1:10
Torque Limits	Parameter settings allow different limits in four quadrants in EZOLV control method.
Accel & Decel Time	0.1 sec to 6000.0 sec The drive can set two pairs of different acceleration and deceleration times.
V/f Characteristics	Select from 15 pre-defined V/f patterns, or a user-set V/f pattern.
Main Control Functions	Restart After Momentary Power Loss, Speed Search, Overtorque/Undertorque Detection, Torque Limit, 9 Step Speed (max.), Accel/Decel Switch, S-curve Acceleration/Deceleration, 3-wire Sequence, Auto-Tuning (Rotational and Stationary), Cooling Fan ON/OFF Switch, Slip Compensation, Torque Compensation, Jump Frequency, Upper/Lower Limits for Frequency Reference, DC Injection Braking at Start and Stop, Overexcitation Braking, High Slip Braking, PID Control (with Sleep Function), Energy Saving Control, APOGEE FLN Communication (RS-485 4.8 kbps), BACnet Communication (RS-485 max. 76.8 kbps), MEMOBUS/Modbus Communication (RS-485 max. 115.2 kbps), Metasys N2 Communication (RS-485 9.6 kbps), Auto Restart, Application Presets, DriveWorksEZ (customized functions), KEB, Overexcitation Deceleration, Overvoltage Suppression
Motor Protection	Electronic thermal overload protection
Momentary Overcurrent Protection	Drive stops when the output current is more than 175% of the drive rated output current.
Overload Protection	<p>Drive stops when the output current is more than these overload tolerances:</p> <ul style="list-style-type: none"> 110% of the rated output current for 60 seconds 140% of the rated output current for 2.5 seconds when the drive output frequency is 3 Hz <p>The permitted frequency of overload is one time each 10 minutes.</p> <p>Note: If output frequency < 6 Hz, the drive can trigger the overload protection function when the output current is in the overload tolerance range.</p>

Item	Specification
Overvoltage Protection	200 V class: Stops when the DC bus voltage is more than approximately 410 V 400 V class: Stops when the DC bus voltage is more than approximately 820 V
Undervoltage Protection	200 V class: Stops when the DC bus voltage decreases to less than approximately 190 V 400 V class: Stops when the DC bus voltage decreases to less than approximately 380 V
Momentary Power Loss Ride-thru	Immediately stops when power loss is 15 ms or longer. Continues operation if power loss is shorter than 2 s (depending on parameter settings). Note: Stop time may be shortened depending on the load and motor speed.
Heatsink Overheat Protection	The drive stops when the thermistor detects an IGBT temperature more than approximately 100°C (212°F). The trip temperature level is different for different drive models.
Stall Prevention	Stall prevention is available during acceleration, deceleration, and during run.
Ground Fault Protection	Electronic circuit protection Note: This protection detects any ground faults during run. The drive will not provide protection when: <ul style="list-style-type: none"> • There is a low-resistance ground fault for the motor cable or terminal block • Energizing the drive when there is a ground fault present.
DC Bus Charge LED	Charge LED illuminates when DC bus voltage is more than 50 V.
Area of Use	Indoors
Power Supply	Overvoltage Category III
Ambient Temperature	IP20/UL Type 1 and IP55/UL Type 12: -10 °C to +40 °C (14 °F to 104 °F) IP20/UL Open Type/Heatsink External Mounting: -10 °C to +50 °C (14 °F to 122 °F) <ul style="list-style-type: none"> • When you install the drive in an enclosure, use a cooling fan or air conditioner to keep the internal air temperature in the permitted range. • Do not let the drive freeze. • You can use IP20/UL Open Type and IP20/UL Type 1 drives at a maximum of 60 °C (140 °F) when you derate the output current. • You can use IP55/UL Type 12 drives at a maximum of 50 °C (122 °F) when you derate the output current.
Humidity	95% RH or less Do not let condensation form on the drive.
Storage Temperature	-20 °C to +70 °C (-4 °F to +158 °F) (short-term temperature during transportation)
Surrounding Area	Pollution degree 2 or less Install the drive in an area without: <ul style="list-style-type: none"> • Oil mist, corrosive or flammable gas, or dust • Metal powder, oil, water, or other unwanted materials • Radioactive materials or flammable materials, including wood • Harmful gas or fluids • Salt • Direct sunlight Keep wood or other flammable materials away from the drive.
Altitude	1000 m (3281 ft) maximum Note: Derate the output current by 1% for each 100 m (328 ft) to install the drive in altitudes between 1000 m to 4000 m (3281 ft to 13123 ft). It is not necessary to derate the rated voltage in these conditions: <ul style="list-style-type: none"> • When you install the drive at 2000 m (6562 ft) or lower • When you install the drive between 2000 m to 4000 m (6562 ft to 13123 ft) and ground the neutral point on the power supply.

General specification

Item	Specification
Vibration	<ul style="list-style-type: none"> • 10 Hz to 20 Hz: 1 G (9.8 m/s², 32.15 ft/s²) • 20 Hz to 55 Hz: <ul style="list-style-type: none"> 2011 to 2031, 4005 to 4034: 0.6 G (5.9 m/s², 19.36 ft/s²) 2046 to 2273, 4040 to 4302: 0.2 G (1.96 m/s², 6.43 ft/s²)
Installation Orientation	Install the drive vertically for sufficient cooling airflow.
Certifications	<ul style="list-style-type: none"> • UL, cUL, CE, RoHS 2, WEEE, TÜV SÜD • CBC, IBC, ASCe7, ICC-ES 156 • HCAI (Special Seismic Certification Pre-approval OSP-0687) • Safe Torque Off, SIL3 according to IEC 62061, PLe according to ISO 1384
Protection Design	IP20/UL Open Type IP20/UL Type 1 IP55/UL Type 12 Note: Install a UL Type 1 kit on an IP20/UL Open Type drive to convert the drive to an IP20/UL Type 1.

Power Ratings

Three-phase 400 V Units

Model CIPR-HV60C...		4005	4006	4008	4011	4014	4021	4027	4034	4040
Maximum Applicable Motor Capacity	kW	1.5	2.2	3	4	5.5	7.5	11	15	18.5
Rated Output Current	Cont.	4.8	5.4	7.6	11	14	21	27	34	40
Default Carrier Frequency	kHz	5	5	5	5	5	5	5	5	5
DC Reactor	5% split choke built in both positive and negative DC bus leg as standard									
Braking Transistor	-									
Maximum Output Voltage	Three phase 380 V to 480 V Note: The maximum output voltage is proportional to the input voltage									
EMC Filter	Category C2 EMC filter built-in IEC61800-3									
Power Supply	AC Power: Three-phase 380 V to 480 V at 50/60 Hz, DC Power: 510 V to 680 V									
Input Power	kVA	2.8	3.7	4.9	6.2	8.2	12	16	21	26

Model CIPR-HV60C...		4052	4065	4077	4096	4124	4156	4180	4240	4302
Maximum Applicable Motor Capacity	kW	22	30	37	45	55	75	90	110	160
Rated Output Current	Cont.	52	65	77	96	124	156	180	240	302
Default Carrier Frequency	kHz	5	5	5	5	5	5	5	4	4
DC Reactor	5% split choke built in both positive and negative DC bus leg as standard									
Braking Transistor	-									
Maximum Output Voltage	Three phase 380 V to 480 V Note: The maximum output voltage is proportional to the input voltage									
EMC Filter	Category C2 EMC filter built-in IEC61800-3									
Power Supply	AC Power: Three-phase 380 V to 480 V at 50/60 Hz, DC Power: 510 V to 680 V									
Input Power	kVA	30	41	52	62	71	97	116	142	205

Three-phase 200 V Units

Model CIPR-HV60C...		2011	2017	2024	2031	2046	2059	2075	2088	2114
Maximum Applicable Motor Capacity	kW	2.2	4	5.5	7.5	11	15	18.5	22	30
Rated Output Current	Cont.	10.6	16.7	24.2	30.8	46.2	59.4	74.8	88	114
Default Carrier Frequency	kHz	5	5	5	5	5	5	5	5	5
DC Reactor	5% split choke built in both positive and negative DC bus leg as standard									
Braking Transistor	-									
Maximum Output Voltage	Three phase 200 V to 240 V Note: The maximum output voltage is proportional to the input voltage									
EMC Filter	Category C2 EMC filter built-in IEC61800-3									
Power Supply	AC Power: Three-phase 200 V to 240 V at 50/60 Hz, DC Power: 270 V to 540 V									
Input Power	kVA	3.7	5.8	8	11	17	22	27	33	44

Model CIPR-HV60C...		2143	2169	2211	2273
Maximum Applicable Motor Capacity	kW	2.2	3.7	5.5	7.5
Rated Output Current	Cont.	10.6	16.7	24.2	30.8
Default Carrier Frequency	kHz	5	5	5	5
DC Reactor	5% split choke built in both positive and negative DC bus leg as standard				
Braking Transistor	-				
Maximum Output Voltage	Three phase 200 V to 240 V Note: The maximum output voltage is proportional to the input voltage				
EMC Filter	Category C2 EMC filter built-in IEC61800-3				
Power Supply	AC Power: Three-phase 200 V to 240 V at 50/60 Hz, DC Power: 270 V to 540 V				
Input Power	kVA	54	65	79	107

Drive Watt Loss

Three-phase 400 V Units

Model CIPR-HV60C...	Power	Current	HV600 Drive Heat Losses			
			Carrier Frequency (kHz)	Interior Unit Loss (W)	Cooling Fin Loss (W)	Total Loss (W)
4005	1.5 kW	4.8 A	5	34	36	70
4006xF *1	2.2 kW	5.4 A	5	36	44	80
4006xV *1	2.2 kW	5.4 A	5	40	70	110
4008xF *1	3 kW	7.6 A	5	43	60	103
4008xV *1	3 kW	7.6 A	5	45	93	138
4011	4 kW	11 A	5	54	127	180
4014	5.5 kW	14 A	5	64	174	238
4021	7.5 kW	21 A	5	85	183	268
4027	11 kW	27 A	5	107	254	361
4034	15 kW	34 A	5	125	309	434
4040	18.5 kW	40 A	5	142	361	504
4052	22 kW	52 A	5	169	426	594
4065	30 kW	65 A	5	217	572	789
4077	37 kW	77 A	5	262	771	1033
4096	45 kW	96 A	5	311	910	1221
4124	55 kW	124 A	5	399	1170	1569
4156	75 kW	156 A	5	318	1363	1681
4180	90 kW	180 A	5	372	1598	1970
4240	110 kW	240 A	4	376	1655	2031
4302	160 kW	302 A	4	839	2728	3567

*1 The watt loss values are different for different drive protection designs.

Three-phase 200 V Units

Model CIPR-HV60C...	Power	Current	HV600 Drive Heat Losses			
			Carrier Frequency (kHz)	Interior Unit Loss (W)	Cooling Fin Loss (W)	Total Loss (W)
2011	2.2 kW	10.6 A	5	45	86	131
2017	4 kW	16.7 A	5	56	140	196
2024	5.5 kW	24.2 A	5	75	184	259
2031	7.5 kW	30.8 A	5	89	244	333
2046	11 kW	46.2 A	5	116	314	430
2059	15 kW	59.4 A	5	148	418	566
2075	18.5 kW	74.8 A	5	175	538	713
2088	22 kW	88 A	5	201	615	816
2114	30 kW	114 A	5	246	780	1026
2143	37 kW	143 A	5	244	937	1180
2469	45 kW	169 A	5	279	1132	1411
2211	55 kW	211 A	5	331	1321	1651
2273	75 kW	273 A	5	423	1821	2244

*1 The watt loss values are different for different drive protection designs.

Deratings

Carrier Frequency Derating

The rated current of HV600 drives might need to be reduced depending on the selected carrier frequency.

Three-phase 400 V Units

Model CIPR-HV60C...	Power	Current	HV600 Continuous Rated Output Current in Ampere				
			2 kHz	5 kHz	8 kHz	10 kHz	12.5 kHz
4005	1.5 kW	4.8 A	4.8	4.8	4	3.5	2.8
4006	2.2 kW	5.4 A	5.4	5.4	4.5	4	3.2
4008	3 kW	7.6 A	7.6	7.6	6.3	5.5	4.5
4011	4 kW	11 A	11	11	9.2	8	6.6
4014	5.5 kW	14 A	14	14	11.7	10.2	8.4
4021	7.5 kW	21 A	21	21	17.6	15.4	12.6
4027	11 kW	27 A	27	27	22.6	19.8	16.2
4034	15 kW	34 A	34	34	28.5	24.9	20.4
4040	18.5 kW	40 A	40	40	33.6	29.3	24
4052	22 kW	52 A	52	52	43.7	38.1	31.2
4065	30 kW	65 A	65	65	54.6	47.7	39
4077	37 kW	77 A	77	77	64.7	56.5	46.2
4096	45 kW	96 A	96	96	80.6	70.4	57.6
4124	55 kW	124 A	124	124	99.3	82.8	62.2
4156	75 kW	156 A	156	156	124.9	104.2	78.2
4180	90 kW	180 A	180	180	144	120	-
4240	110 kW	240 A	240	224	176	144	-
4302	160 kW	302 A	302	281.9	221.5	181.2	-

Three-phase 200 V Units

Model CIPR- HV60C...	Power	Current	HV600 Continuous Rated Output Current in Ampere				
			2 kHz	5 kHz	8 kHz	10 kHz	12.5 kHz
2011	2.2 kW	10.6 A	10.6	10.6	8.9	7.7	6.3
2017	4 kW	16.7 A	16.7	16.7	14.0	12.2	10.0
2024	5.5 kW	24.2 A	24.2	24.2	20.3	17.7	14.5
2031	7.5 kW	30.8 A	30.8	30.8	25.8	22.6	18.5
2046	11 kW	46.2 A	46.2	46.2	38.8	33.9	27.7
2059	15 kW	59.4 A	59.4	59.4	49.9	43.5	35.6
2075	18.5 kW	74.8 A	74.8	74.8	62.8	54.9	44.9
2088	22 kW	88 A	88.0	88.0	73.9	64.5	52.8
2114	30 kW	114 A	114	114	95.8	83.6	68.4
2143	37 kW	143 A	143	143	114.5	95.5	71.7
2469	45 kW	169 A	169	169	135.3	112.8	84.7
2211	55 kW	211 A	211	211	168.8	140.7	-
2273	75 kW	273 A	273	273	218.4	182	-

Ambient Temperature Derating

Depending on the mounting condition, enclosure type and ambient temperature derating factors need to be applied on the rated output current of HV600 drives. The derating curves shown below are valid for all frames of HV600.

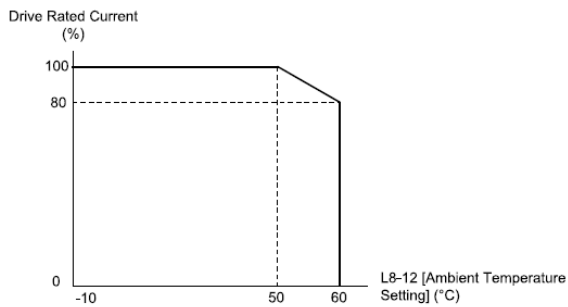


Figure 10.1 Derating for IP20/UL Open Type (L8-35 = 0)

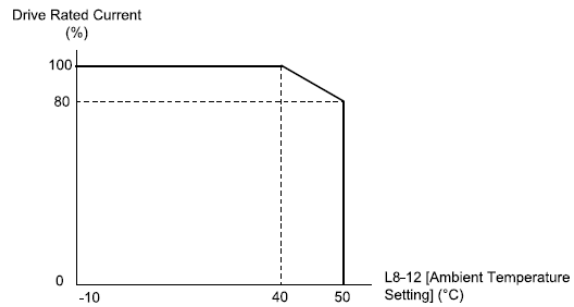
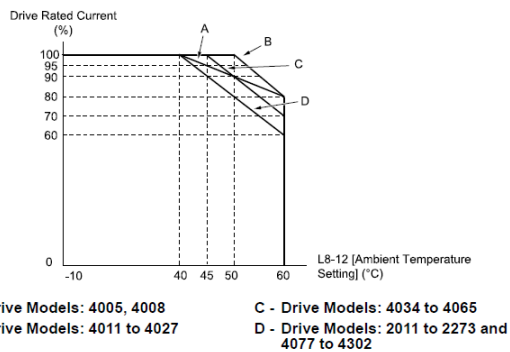


Figure 10.2 Derating for Side-by-Side Mounting (L8-35 = 1)



A - Drive Models: 4005, 4008
 B - Drive Models: 4011 to 4027
 C - Drive Models: 4034 to 4065
 D - Drive Models: 2011 to 2273 and 4077 to 4302

Figure 10.3 Derating for IP20/UL Type 1 (L8-35 = 2)

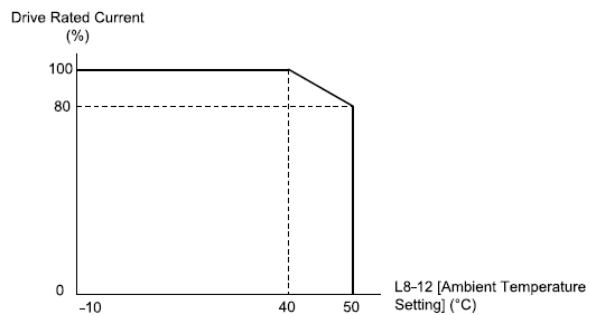


Figure 10.4 Derating for IP55/UL Type 12 (L8-35 = 3)

Altitude Derating

HV600 drives can be operated at altitudes up to 1000 m without derating. Between 1000 and 4000 m altitude above sea level a derating of 1 % per 100 m must be applied to the rated output current.

Additionally, a derating must be applied to the rated voltage if the drive is installed over 2000 m above sea level with the neutral point of the power supply ungrounded.

Built-in EMC Filters

CIPR-HV60C4□□□	Power	Current	IEC61800-3 Category	Cable Length *1
4005	1.5 kW	4.8 A	C2	100 m
4006	2.2 kW	6 A	C2	100 m
4008	3 kW	7.6 A	C2	100 m
4011	4 kW	11 A	C2	100 m
4014	5.5 kW	14 A	C2	100 m
4021	7.5 kW	21 A	C2	100 m
4027	11 kW	27 A	C2	100 m
4034	15 kW	34 A	C2	100 m
4040	18.5 kW	40 A	C2	100 m
4052	22 kW	52 A	C2	100 m
4065	30 kW	65 A	C2	100 m
4077	37 kW	77 A	C2	100 m
4096	45 kW	96 A	C2	100 m
4124	55 kW	124 A	C2	100 m
4156	75 kW	156 A	C2	100 m
4180	90 kW	180 A	C2	100 m
4240	110 kW	240 A	C2	100 m
4302	160 kW	302 A	C2	100 m

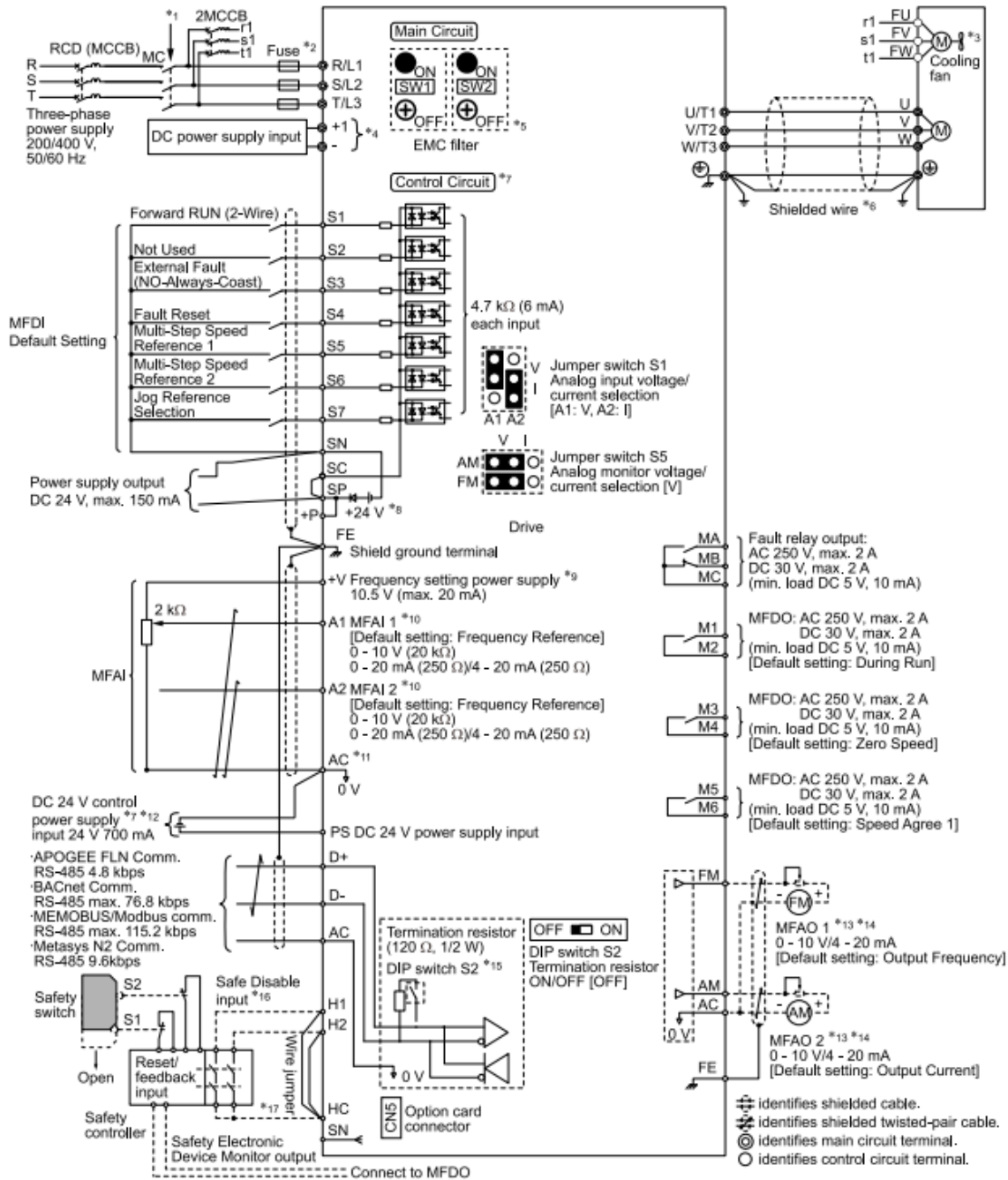
Note:

*1 Shielded Motor Cable

*1 at Default Switching Frequency

Electrical Connections

Connection Diagram



Standard Drive Connection Diagram

*For more details check HV600 Technical Manual chapter 3 Electrical Installation

Dimensions and Weight

Models: 2xxxxF and 4xxxxF, IP20/UL Type 1

Model CIPR- HV60C...	Power (kW)	Fig.	W	H	D	Weight (kg)
4005	1.5	1	124	357	218	7
4006	2.2		124	357	218	7.5
4008	3		124	357	218	7.5
2011	2.2	2	124	357	218	6.5
2017	4		124	357	218	6.5
4011	4		124	357	218	7
4014	5.5	3	124	357	218	7
2024	5.5		124	447	233	8.5
2031	7.5		124	447	233	9
4021	7.5	3	124	447	233	9
4027	11		124	447	233	10
4034	15		124	447	233	11

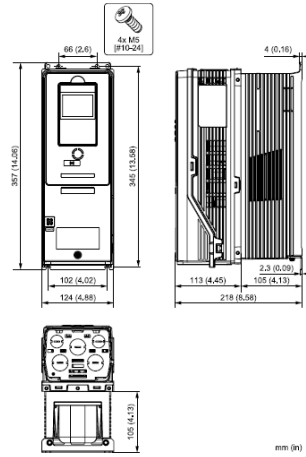


Figure 10.7 Exterior and Mounting Dimensions Diagram 1

Estimated Weight kg (lb)	
4005	4008
7.0 (15.4)	7.5 (16.5)

Figure 1

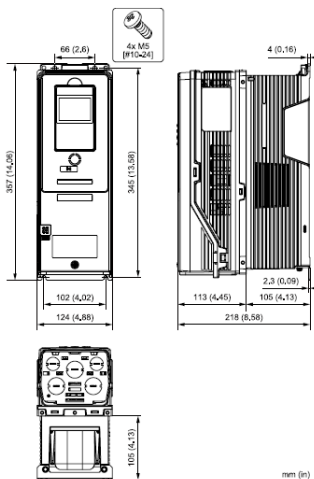


Figure 10.8 Exterior and Mounting Dimensions Diagram 2

Estimated Weight kg (lb)			
2011	2017	4011	4014
6.5 (14.3)	6.5 (14.3)	7.0 (15.4)	7.0 (15.4)

Figure 2

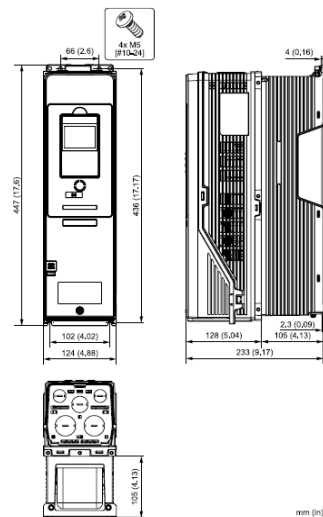


Figure 10.9 Exterior and Mounting Dimensions Diagram 3

Estimated Weight kg (lb)				
2024	2031	4021	4027	4034
8.5 (18.7)	9.0 (19.8)	9.0 (19.8)	10 (22.0)	11 (24.3)

Figure 3

*Please refer to the technical manual for IP55 dimensions and weight.

Models: 2xxxxF and 4xxxxF, IP20/UL Type 1

Model CIPR- HV60C...	Power (kW)	Fig.	W	H	D	Weight (kg)
2046	11	4	200	538	237	
2059	15		200	538	237	
4040	18.5		200	538	237	16
4052	22		200	538	237	18
4065	30		200	538	237	20
2075	18.5	5	255	590	263	25
2088	22		255	590	263	25
2114	30		255	590	263	28
4077	37		255	590	263	28
4096	45		255	590	263	30
4124	55	6	255	590	263	33
2143	37		312	830	400	74
2169	45		312	830	400	76
4156	75		312	830	400	78

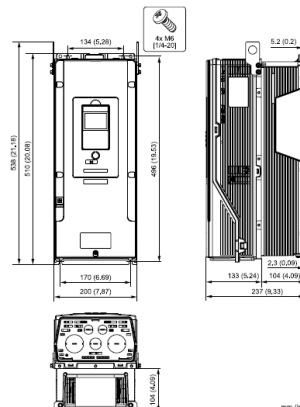


Figure 10.10 Exterior and Mounting Dimensions Diagram 4

Estimated Weight kg (lb)				
2046	2059	4040	4052	4065
15 (33.1)	16 (35.3)	16 (35.3)	18 (39.7)	20 (44.1)

Figure 4

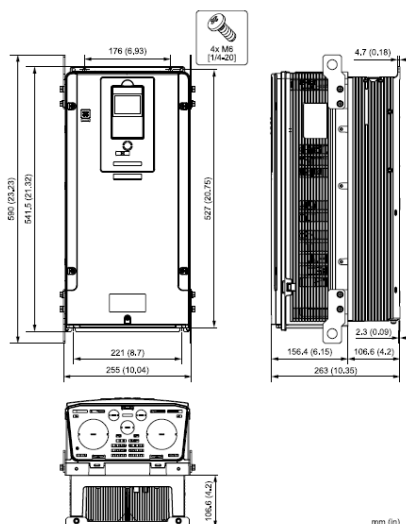


Figure 10.11 Exterior and Mounting Dimensions Diagram 5

Estimated Weight kg (lb)					
2075	2088	2114	4077	4096	4124
25 (55.1)	25 (55.1)	28 (61.7)	28 (61.7)	30 (66.1)	33 (72.8)

Figure 5

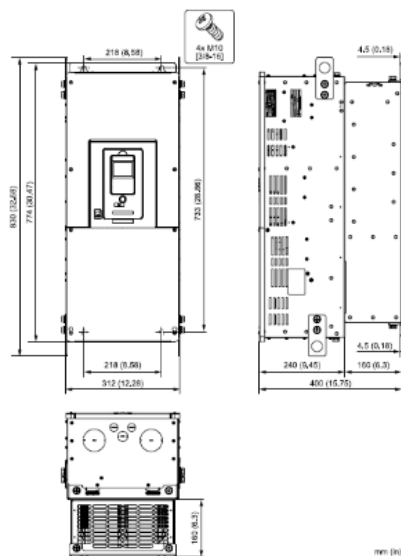


Figure 10.12 Exterior and Mounting Dimensions Diagram 6

Estimated Weight kg (lb)		
2143	2169	4156
74 (163.1)	76 (167.6)	78 (172.6)

Figure 6

Dimensions and Weight

Models: 2xxxxB and 4xxxxB, IP20/UL Open Type

Model CIPR- HV60C...	Power (kW)	Fig.	W	H	D	Weight (kg)
2211	55	7	312	731	420	78
2273	75		312	731	420	82
4180	90		312	731	420	79
4240	110		312	731	420	98
4302	160	8	440	831	472	125

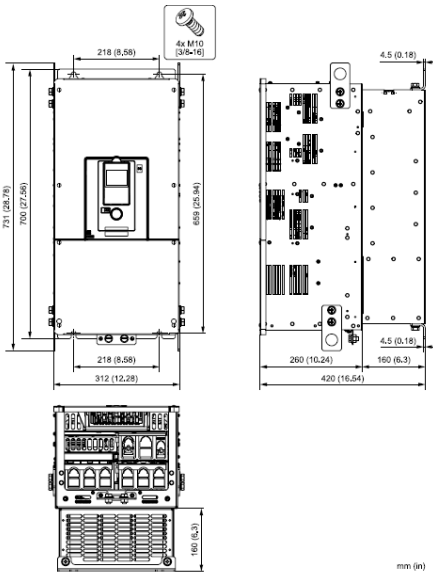


Figure 10.5 Exterior and Mounting Dimensions Diagram 1

Estimated Weight kg (lb)			
2211	2273	4180	4240
78 (172.0)	82 (180.5)	79 (174.2)	82 (180.8)

Figure 7

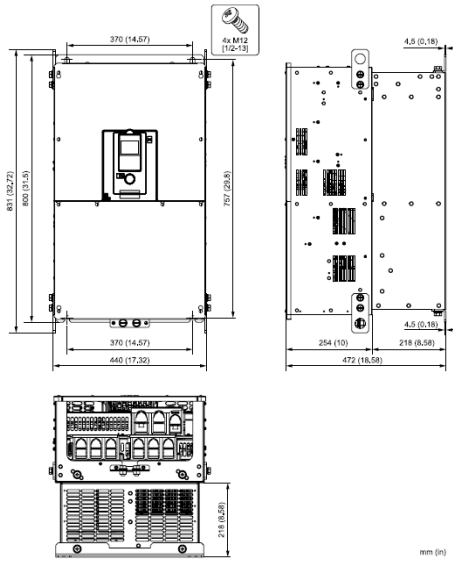


Figure 10.6 Exterior and Mounting Dimensions Diagram 2

Estimated Weight kg (lb)	
4302	125 (275.6)

Figure 8

Models: 2xxxxV and 4xxxxV, IP55

Model CIPR-HV60C...	Power (kW)	Fig.	W	H	D	Weight (kg)
4005	1.5	1	124	357	228	7
2011	2.2	2	124	357	228	6.5
2017	4		124	357	228	6.5
4006	2.2		124	357	228	7
4008	3		124	357	228	7
4011	4		124	357	228	7
4014	5.5		124	357	228	7
2024	5.5	3	124	447	243	8.5
2031	7.5		124	447	243	9
4021	7.5		124	447	243	9
4027	11		124	447	243	10
4034	15		124	447	243	11

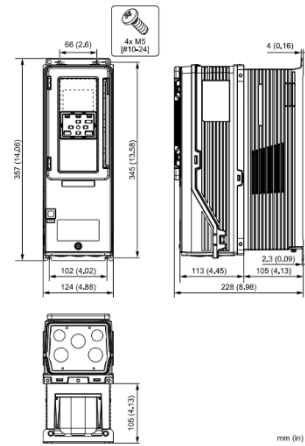


Figure 10.13 Exterior and Mounting Dimensions Diagram 1

Estimated Weight	
kg (lb)	
4005	
7.0 (15.4)	

Figure 1

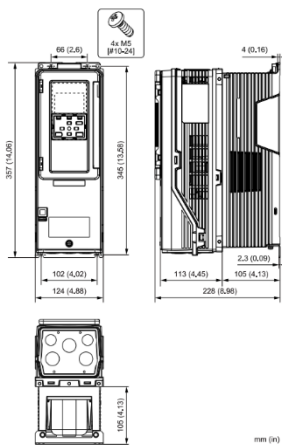


Figure 10.14 Exterior and Mounting Dimensions Diagram 2

Estimated Weight					
kg (lb)					
2011	2017	4006	4008	4011	4014
6.5 (14.3)	6.5 (14.3)	7.0 (15.4)	7.0 (15.4)	7.0 (15.4)	7.0 (15.4)

Figure 2

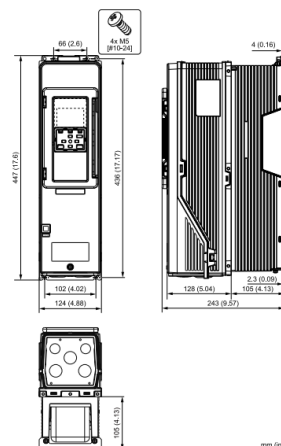


Figure 10.15 Exterior and Mounting Dimensions Diagram 3

Estimated Weight				
kg (lb)				
2024	2031	4021	4027	4034
8.5 (18.7)	9.0 (19.8)	9.0 (19.8)	10 (22.0)	11 (24.3)

Figure 3

Dimensions and Weight

Models: 2xxxxV and 4xxxxV, IP55

Model CIPR-HV60C...	Power (kW)	Fig.	W	H	D	Weight (kg)
2046	11	4	200	538	247	15
2059	15		200	538	247	16
4040	18.5		200	538	247	16
4052	22		200	538	247	18
4065	30		200	538	247	20
2075	18.5	5	255	590	273	25
2088	22		255	590	273	25
2114	30		255	590	273	28
4077	37		255	590	273	28
4096	45		255	590	273	30
4124	55	6	255	590	273	33
2143	37		362	887	410	80
2169	45		362	887	410	83
4156	75		362	887	410	83

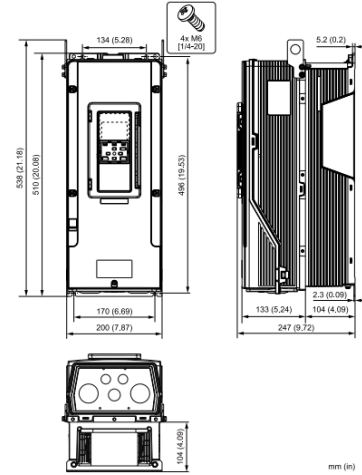


Figure 10.16 Exterior and Mounting Dimensions Diagram 4

Estimated Weight				
kg (lb)				
2046	2059	4040	4052	4065
15 (33.1)	16 (35.3)	16 (35.3)	18 (39.7)	20 (44.1)

Figure 4

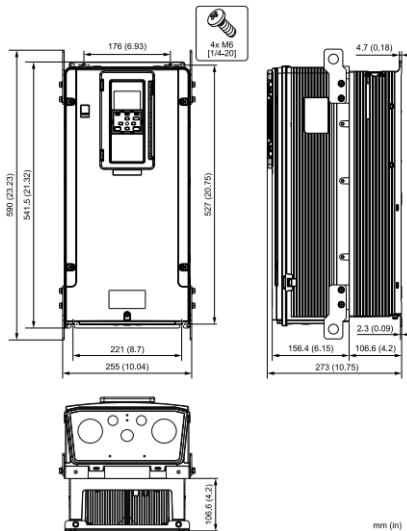


Figure 10.17 Exterior and Mounting Dimensions Diagram 5

Estimated Weight					
kg (lb)					
2075	2088	2114	4077	4096	4124
25 (55.1)	25 (55.1)	28 (61.7)	28 (61.7)	30 (66.1)	33 (72.8)

Figure 5

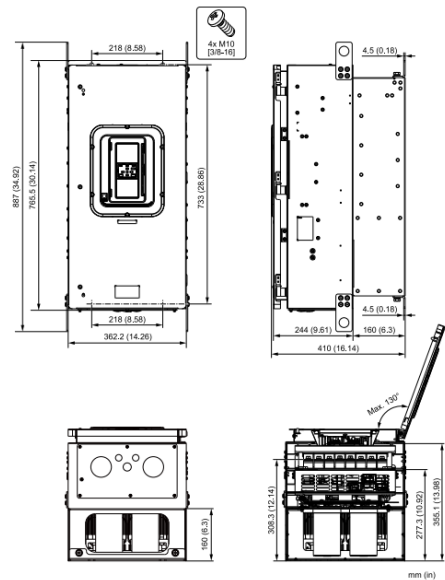


Figure 10.18 Exterior and Mounting Dimensions Diagram 6

Estimated Weight		
kg (lb)		
2143	2169	4156
80 (176.4)	83 (183.0)	83 (183.0)

Figure 6

Accessories & Power Options

Network Communications Option Cards

These cards and devices add control functionality to the standard drive. Items are shipped loose, unmounted.

Network Type	Model Codes	SAP #
PROFIBUS	SI-P3	500-029-593
Multi-protocol Ethernet Option	JOHB-SMP3	10109077

*Note: The Multi-Protocol Ethernet option card (JOHB-SMP3) is a single circuit board option card for Yaskawa AC drives that contains multiple Ethernet protocols.

- Modbus TCP/IP
- EtherNet/IP
- PROFINET
- BACnet/IP

LED/LCD Keypads

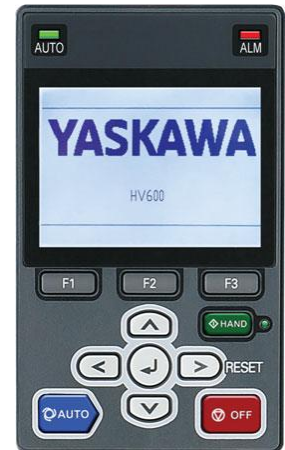
Standard HOA LCD Keypad

Model Code: JVOP-KPLCB04AEB

SAP # 10121572


HOA (Hand-Off-Auto) LCD keypad comes standard with each HV600 and can be remote mounted by using one of the panel mount kits. This LCD keypad greatly improves the operability of the drive. The high-res screen can display graphics and multi-language full text. Keypad includes a clock battery.

Additional functions are: Automatic backup function, Start-up Wizard, copy function (4 sets of parameters), data logging, real-time clock, Hand/Off/Auto mode.



Extension Cables

Extension cables for keypads are offered in two lengths.

Model Number	Description	SAP #	
WV001-YEG	Keypad Remote Mount Cable - 1 Meter	10007058	
WV003-YEG	Keypad Remote Mount Cable - 3 Meter	10012366	




PC Connection Cable (USB)

Model Number	Description	SAP #
JZSP-CVS06-02-E	USB-mini connection cable for PC 2.5m	300-100-888

Keypad Door Mounting Kits

Door Mounting Kits for LCD Keypads (with or without Bluetooth)

The LCD keypads can be mounted to a panel front door using one of the mounting kits below.

Type of Mounting	Brackets have tapped holes for use with screws	Brackets have untapped holes for use with panel studs
Description	Type 1 Keypad Panel Mount Kit A	Type 1 Keypad Panel Mount Kit B
Model Number	900-192-933-001	900-192-933-002
SAP #	10090514	10090515
Appearance		
Type of Mounting	With embedded studs	
Description	Remote Keypad Mounting Kit for LCD/LED Keypad JVOP-KPLx, IP55/UL Type 12	
Model Number	900-239-230-001	
SAP #	10108053	
Appearance		

AC Input Reactors

Model Code	4% uk	
	IP00	IP20 option box
CIPR-HV60C4005Cxxx	LR3 40-4/6	IP20-Box32
CIPR-HV60C4006Cxxx	LR3 40-4/10	
CIPR-HV60C4008Cxxx		
CIPR-HV60C4011Cxxx		
CIPR-HV60C4014Cxxx	LR3 40-4/16	IP20-Box33
CIPR-HV60C4021Cxxx	LR3 40-4/25	
CIPR-HV60C4027Cxxx		
CIPR-HV60C4034Cxxx	LR3 40-4/45	IP20-Box35
CIPR-HV60C4040Cxxx		
CIPR-HV60C4052Cxxx		
CIPR-HV60C4065Cxxx	LR3 40-4/63	IP20-Box36
CIPR-HV60C4077Cxxx	LR3 40-4/90	IP20-Box39
CIPR-HV60C4096Cxxx		
CIPR-HV60C4124Cxxx	LR3 40-4/115	IP20-Box41
CIPR-HV60C4156Cxxx	LR3 40-4/160	
CIPR-HV60C4180Cxxx	LR3 40-4/200	
CIPR-HV60C4240Cxxx	LR3 40-4/250	IP20-Box44
CIPR-HV60C4302Cxxx	LR3 40-4/300	

Model Code	4% uk	
	IP00	IP20 option box
CIPR-HV60C2011Cxxx	LR3 40-4/10	IP20-Box32
CIPR-HV60C2017Cxxx	LR3 40-4/16	
CIPR-HV60C2024Cxxx	LR3 40-4/25	IP20-Box33
CIPR-HV60C2031Cxxx	LR3 40-4/45	IP20-Box35
CIPR-HV60C2046Cxxx		
CIPR-HV60C2059Cxxx	LR3 40-4/63	IP20-Box36
CIPR-HV60C2075Cxxx	LR3 40-4/90	IP20-Box39
CIPR-HV60C2088Cxxx		
CIPR-HV60C2114Cxxx	LR3 40-4/115	IP20-Box39
CIPR-HV60C2143Cxxx	LR3 40-4/160	
CIPR-HV60C2169Cxxx		
CIPR-HV60C2211Cxxx	LR3 40-4/200	
CIPR-HV60C2273Cxxx	LR3 40-4/300	IP20-Box44

Output Reactors

Model Code	up to 120 Hz Output Frequency		up to 50 Hz Output Frequency	
	IP00 New	IP20 option box	IP00 Old / New	IP20 option box
	CIPR-HV60C4005Cxxx	MDB 400/6,3	IP20-Box31	MR3 400/10
CIPR-HV60C4006Cxxx				
CIPR-HV60C4008Cxxx	MDB 400/13	IP20-Box32	MR3 400/18	
CIPR-HV60C4011Cxxx				
CIPR-HV60C4014Cxxx	MDB 400/24	IP20-Box36	MR3 400/24	
CIPR-HV60C4021Cxxx				
CIPR-HV60C4027Cxxx	MDB 400/46	IP20-Box37	MR3 400/37	IP20-Box33
CIPR-HV60C4034Cxxx			MR3 4000/48	IP20-Box35
CIPR-HV60C4040Cxxx				
CIPR-HV60C4052Cxxx	MDB 400/72	IP20-Box37	MR3 400/61	
CIPR-HV60C4065Cxxx				
CIPR-HV60C4077Cxxx	MDB 400/110	IP20-Box39	use 120 Hz type	use 120Hz type
CIPR-HV60C4096Cxxx				
CIPR-HV60C4124Cxxx	MDB 400/176	IP20-Box39		
CIPR-HV60C4156Cxxx				
CIPR-HV60C4180Cxxx	MDB 400/250	IP20-Box39		
CIPR-HV60C4240Cxxx				
CIPR-HV60C4302Cxxx				

Limitations:	
Carrier Frequency :	8 kHz
Motor cable screened :	100 m screen
Motor cable not screened :	150m no screen
Power Supply:	200V 3 Phase possible

Model Code	up to 120 Hz Output Frequency		up to 50 Hz Output Frequency	
	IP00	IP20 option box	IP00	IP20 option box
	New		Old / New	
CIPR-HV60C2011Cxxx	MDB 400/13	IP20-Box32	MR3 400/18	IP20-Box32
CIPR-HV60C2017Cxxx	MDB 400/24	IP20-Box36		
CIPR-HV60C2024Cxxx			MR3 400/24	
CIPR-HV60C2031Cxxx	MDB 400/46	IP20-Box37	MR3 400/37	IP20-Box33
CIPR-HV60C2046Cxxx			MR3 400/48	IP20-Box35
CIPR-HV60C2059Cxxx	MDB 400/72		MR3 400/61	
CIPR-HV60C2075Cxxx	MDB 400/110	IP20-Box39	use 120 Hz type	use 120Hz type
CIPR-HV60C2088Cxxx				
CIPR-HV60C2114Cxxx	MDB 400/176	IP20-Box41		
CIPR-HV60C2143Cxxx				
CIPR-HV60C2169Cxxx				
CIPR-HV60C2211Cxxx	MDB 400/250			
CIPR-HV60C2273Cxxx	MDB 400/380			

HV600 online info

Certification/Declaration

The latest version of HV600 product certification/declaration can be downloaded from Yaskawa website.

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HV600 AC Drives TÜV Safety Certificate TÜV Certification AC Drive Series HV600	Certification	English	



HV600 Info Page



[HV600 Online Info](#)

Software Tools

Software Tools

Tool	Description	System	Connection
DriveWizard 10	PC Tool for parameter management/backup/diagnostics	Windows	USB-mini
DriveWizard Mobile	Mobile app for parameter management/backup/diagnostics	Android 	Bluetooth USB-mini with USB on-the-go adapter
		iPhone 	Bluetooth

YASKAWA



HV600

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