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You can read the recommendations in the user guide, the technical guide or the installation guide for OMRON V7. You'll find the answers to all your questions on the OMRON V7 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual OMRON V7
User guide OMRON V7
Operating instructions OMRON V7
Instructions for use OMRON V7
Instruction manual OMRON V7



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Manual abstract:

5 million of V7 series inverters world-wide. It has become a market reference in reliability. The latter is not some quantifiable parameter that one can just mention in the specification sheet. It's a rather rigorous process built into the genes of the product. 10,00 5% Failure rate for drives Conventional inverter vs V7 Amps Derating 400V - 4,0 Kw at 40°C The secret of the leader is that it simply runs and runs until you tell it to stop... The V7 is designed to operate in the most severe environments. Hence, it goes far beyond normal expectations (standard published specifications). For example, it delivers 40% more current than any inverter on the market.

And it does this under severe conditions, such as high carrier frequency, high temperature, large voltage fluctuations, etc. The result is that you get what's in the box and much more. Now that's quality beyond a doubt! Omron Yaskawa V7AZ 8,00 Output (A) 6,00 4,00 2,00 0,00 Noisy operation 2,5 3 5 6 7,5 10 Silent operation 12 14 Conventional inverter 3% Market standard 1% 1 year Omron-Yaskawa 5 years C.Frq. (KHz) Ro b u s t I G B T s The secret inside Packaging feed Positioning Product feed Product out Rotating and static autotune Besides the standard rotating autotune function, the new V7 series also features static autotune.

This greatly eases drive setup by eliminating the need to rotate the motor during autotuning. The result - faster, easier and cheaper installation and commissioning. @@Stopping without position control. @@@@CASE gives standard inverters the performance of a custom-made solution, allowing big savings in hardware equipment and increasing system reliability. Safe decentralised control The V7 inverter is also available in a ruggedized IP65 housing, enabling you to decentralise your drive control without any extra cabinet costs.

Operating independently of the main control panel, this solution also reduces cabling and saves on installation time. PLC functionality A PLC option board based on Omron's market-leading PLC technology offers you all the cost-saving benefits of PLC functionality. It not only equips the V7 with extra functionality for a broad range of digital control tasks, it also leads to significant savings by eliminating the need for a separate PLC. The board's inverter-based architecture provides for wireless installation and seamless access to all V7 parameters. And it provides external communication via analogue/digital IOs. MECHATROLINK-II Using the Omron-Yaskawa MECHATROLINK-II digital motion bus, you can use the same high-speed motion bus throughout your machine, from motion controller, servo drives and now also the inverter. This creates a fully integrated system for the most advanced motion-control solutions. CIMR-V7AZ Varispeed V7 Sensorless vector in pocket size Nominal torque at 0.5 Hz Autotuning High carrier up to 14 khz Stop accuracy function. Integrated PID controller and bidirectional PID-out put Motor protection with PTC input Pulse input Standard digital operator with copy function Fieldbus: Modbus, DeviceNet, PROFIBUS, CANopen High speed motion bus: ML- II Plug-in PLC option unit.

Total inverter access. CE, UL, and cUL marked V7 IP65 · Compact size · Easy wiring · Built-in filter (Class B) Customized software* · The inverter software can be customized to meet specific application. Examples: · Traverse software S-9381. *For detailed information please refer to case software section. Ratings · 200 V Class single-phase 0.1 to 4 kW · 200 V Class three-phase 0.1 to 7.5 kW · 400 V Class three-phase 0.2 to 7.5 kW System configuration 3G3IV-PCN329-E Inverter to PC cable CX-Drive 3G3IV-PEZZ8122_DIN attachment JVOP-144 Remote digital oper.

with potentiometer JVOP-146 Remote digital oper. with potentiometer 3G3IV-PCN126/326 Digital operator extension cable Line filter *See note Braking accessories Varispeed V7 LKEB_CDBR_B ERF150WJ_* V7 IP65 types are built-in filter inverters. Communication unit *See note PLC option unit *See note * Option frames are needed for V7 IP65 type. Varispeed V7 Varispeed V7 5 1 Specifications Type designation CIMR-V7AZBOP10 Inverter V7 series A: With digital operator (with potentiometer) T: V7 IP65 type with digital operator (without potentiometer) Z: European standard specifications Protective enclosure: 0: IP20 1: NEMA1 05: IP65 Max. applicable motor output 0P1: 0.

1 kW 7P5: 7.5 kW Voltage B: Single-phase 200 VAC 2: Three-phase 200 VAC 4: Three-phase 400 VAC ["P" indicates a decimal point] 200 V class IP20 single-phase: CIMR-V7AZ IP65 single-phase: CIMR-V7TZ IP20 three-phase: CIMR-V7AZ Maximum permissible motor output kW1 Output characteristics Inverter capacity kVA Rated output current A Max. output voltage Max. output frequency Rated input voltage and frequency Allowable voltage fluctuation Allowable frequency fluctuation B0P1 --20P1 0.12 0.

3 0.8 B0P2 --20P2 0.25 0.6 1.6 B0P4 B0P405 20P4 0.55 1.1 3.0 B0P7 B0P705 20P7 1.1 1.9 5.

0 B1P5 B1P505 21P5 1.5 3.0 8.0 B2P2 B2P205 22P2 2.2 4.2 11.0 B4P0 --24P0 4.0 6.7 17.5 Proportional to input voltage: 0.

.240 V 400 Hz Single-phase 200..240 V 50/60 Hz 3-phase 200..

230 V 50/60 Hz -15%..+10% +5% Power supply 1. Based on a standard 4-pole motor for maximum applicable motor output. Select the inverter model within the allowable motor rated current 400 V class IP20 three-phase: CIMR-V7AZ IP65 three-phase: CIMR-V7TZ Maximum permissible motor output kW1 Output characteristics Inverter capacity kVA Rated output current A Max.

output voltage Max. output frequency Rated input voltage and frequency Allowable voltage fluctuation Allowable frequency fluctuation 0.37 0.9 1.2 40P2 40P4 40P405 0.55 1.4 1.8 40P7 40P705 1.1 2.6 3.

4 41P5 41P505 1.5 3.7 4.8 ~ 42P2 42P205 2.2 4.2 5.5 43P0 43P005 3.0 5.5 7.2 44P0 44P005 4.

0 7.0 9.2 45P5 5.5 11.0 14.

8 47P5 7.5 14.0 18.0 Proportional to input voltage: 0..

400 V 400 Hz 3-phase 380..460 VAC, 50/60 Hz -15%..+10% +5% Power supply 1. Based on a standard 4-pole motor for maximum applicable motor output.

Select the inverter model within the allowable motor rated current 6 2 Frequency inverters Varispeed V7 Common specifications Model number CIMR-V7AZ-@ CIMR-V7TZ-@ Control methods Output frequency range Frequency tolerance Control functions Resolution of frequency set value Resolution of output frequency Overload capability Frequency set value Braking torque (short term peak torque) Binary inputs Functionality Binary outputs Analogue output Analogue inputs Braking/acceleration times Display Motor overload protection Instantaneous overcurrent Overload Protection functions Overvoltage Undervoltage Momentary power loss Cooling fan overheat Stall prevention level Cooling fan fault Ground fault Power charge indication Degree of protection Ambient conditions Cooling Ambient temperature Ambient humidity Storage temperature Installation Installation height Vibration Specifications Sine wave PWM (V/f control, sensorless vector control) 0.



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4 A 4.8 A 5.5 A 7.2 A 9.2 A 14.8 A 18.0 A Model CIMR-V7AZ40P20 CIMR-V7AZ40P40 CIMR-V7AZ40P70 CIMR-V7AZ41P50 CIMR-V7AZ42P20 CIMR-V7AZ43P00 CIMR-V7AZ44P00 CIMR-V7AZ45P51 CIMR-V7AZ47P51 Frequency inverters Varispeed V7 15 17 Varispeed V7 IP65 200 V Specifications
1x200 V 0.55 Kw 1.1 Kw 1.5 Kw 2.
2 Kw 3.0 A 5.0 A 8.0 A 11.0 A Model CIMR-V7TZB0P405 CIMR-V7TZB0P705 CIMR-V7TZB1P505 CIMR-V7TZB2P205 400 V Specifications 3x400 V 0.
55 Kw 1.1 Kw 1.5 Kw 2.2 Kw 3.0 Kw 4.
0 Kw 1.8 A 3.4 A 4.8 A 5.5 A 7.2 A 9.2 A Model CIMR-V7TZ40P405 CIMR-V7TZ40P705 CIMR-V7TZ41P505 CIMR-V7TZ42P205 CIMR-V7TZ43P005 CIMR-V7TZ44P005 ALine filters * Inverter Voltage Model CIMR-V7AZ 20P1 / 20P2 / 20P4 / 20P7 3-Phase 200 VAC 21P5 / 22P2 24P0 25P5 / 27P5 B0P1 / B0P2 / B0P4 Single-Phase 200 VAC B0P7 / B1P5 B2P2 B4P0 40P2 / 40P4 3-Phase 400 VAC 40P7 / 41P5 / 42P2 40P4 45P5 / 47P5 * V7 IP65 types are built-in filter inverters.



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Schaffner 3G3MV-PFI2010-SE 3G3MV-PFI2020-SE 3G3MV-PFI2030-SE 3G3MV-PFI1010-SE 3G3MV-PFI1020-SE 3G3MV-PFI1030-SE 3G3MV-PFI1040-SE 3G3MV-PFI3005-SE 3G3MV-PFI3010-SE 3G3MV-PFI3020-SE 3G3MV-PFI3030-SE Line filter Rasmi 3G3MV-PFI2010-E 3G3MV-PFI2020-E 3G3MV-PFI2030-E 3G3MV-PFI2050-E 3G3MV-PFI1010-E 3G3MV-PFI1020-E 3G3MV-PFI1030-E 3G3MV-PFI1040-E 3G3MV-PFI3005-E 3G3MV-PFI3010-E 3G3MV-PFI3020-E 3G3MV-PFI3030-E Rated current (A) 10 20 30 50 10 20 30 40 5 10 15 30 Weight (kg) 0.8 1.0 1.

1 2.3 0.6 1.0 1.1 1.2 1.0 1.0 1.1 2.3 16 18 Frequency inverters Varispeed V7 B Communication cards Type Model 1 3G3MV-PDRT2 Description Function · Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.

DeviceNet option card 2 SI-P1/V7 PROFIBUS-DP option card · Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller. Communication option board SI-S1/V7 ·

Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller. Can open option card 3G3MV-PCORT21 · Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller. Can open gateway SI-T1/V7 MECHATROLINK-II option card · Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through MECHATROLINK-II communication with the host controller. · High speed motion bus.

· Host controller: TrajeXia, MCH or MP series.3 1. 2. 3. Option frame accessory is needed for V7 IP65 types when communications option units are used. For V7 IP65 types with DeviceNet communication, SI-N1/V7 should be used. Please refer to TrajeXia, MCH or MP series section for host controller technical information. C PLC option card Type Model 1 3G3MV-P10CDT-E Description PLC option PLC option Function · Full PLC features, wireless installation and seamless access to the inverter parameters and analogue/digital inputs and outputs. · Standard OMRON tools can be used for programming · Calendar / clock · Same features as standard models with RS 422/485 support. PLC option with RS 422/485 3G3MV-P10CDT3-E 1. Option frame accessory is needed on V7 IP65 types when PLC option unit is used. D Option frame accessory for V7 IP65 Type Option frame Model V7TZ-FR1 Description Function · Frame accessory is needed when communication option unit or PLC option unit are used with Varispeed V7 IP65. Option frame Frequency inverters Varispeed V7 17 19 E Accessories Types Model JVOP-146 Description Functions 4-4.4 dia. MTG HOLES 4-4.

4 DIA.MTG holes 58 (2.28) 11 (0.43) 80 (3.15) 50 (1.97) DATA (15.5) STOP Remote digital operator without potentiometer 23.1 (0.91) 78 (3.07) 88 (3.46) 1.7 5 (0.07) (0.2) 12.2 (0.48) 18.2 30.4 (0.72) (1.20) 10.

5 (0.41) 56 (2.20) 4-M4 spot facing 4-M4 SPOT FACING DEEP3.5 (0.14) deep 3.5 (0.14) Digital operator 15.5 (0.61) 70 (2.76) 4-4.

4 dia. MTG HOLES 4-4.4 DIA.MTG holes 11 58 (2.28) (0.43) 80 (3.15) 50 (1.97) DSPL DATA ENTER RUN MIN MAX STOP RESET Remote digital operator with potentiometer 78 (3.07) 88 (3.46) 23.

1 (0.91) 5 (0.2) 1.7 (0.07) 12.

2 (0.48) 9.3 (0.37) 18.2 30.

4 (0.72) (1.20) 10.5 (0.41) 56 (2.20) 4-M4 SPOT FACING 4-M4 spot (0.14) DEEP 3.5 facing deep 3.5 (0.14) 15.

5 (0.61) 70 (2.76) 72606-CVS31060 3G3IV-PEZZ0838BA Accessories 3G3IV-PCN126 3G3IV-PCN326 3G3IV-PCN329-E Blank cover Digital operator case Digital operator extension cable 1 meter 3 meters PC configuration cable ----same as JVOP-144 without operator ----- E Computer software Types Software Model CX-drive CX-One Description Computer software Computer software Installation Configuration and monitoring software tool Configuration and monitoring software tool 18 20 Frequency inverters 68 (2.68) JVOP-144 DIGITAL OPERATOR JVOP-140 68 (2.68) Varispeed V7 F Braking unit, braking resistor unit Inverter Voltage Max. @@@@ of used 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 Braking torque % 220 125 125 120 125 115 125 230 130 125 135 135 135 130 Connectable min. resistance 300 300 200 120 60 60 32 9.6 9.6 750 750 510 240 200 100 32 32 ALL DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters into inches, multiply by 0.

03937. To convert grams into ounces, multiply by 0.03527. Cat. No.

120E-EN-02 In the interest of product improvement, specifications are subject to change without notice. Frequency inverters Varispeed V7 19 21 omRon eURoPe B.V. Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. Tel: +31 (0) 23 568 13 00 Fax: +31 (0) 23 568 13 88 www.omron-industrial.com United Kingdom omron electronics Ltd Opal Drive, Fox Milne, Milton Keynes, MK15 0DG, UK Tel: +44 (0) 870 752 08 61 Fax: +44 (0) 870 752 08 62 www.omron.co.uk Austria Tel: +43 (0) 1 80 19 00 www.omron.at Belgium Tel: +32 (0) 2 466 24 80 www.omron.be Czech Republic Tel: +420 234 602 602 www.omron.

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