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You can read the recommendations in the user guide, the technical guide or the installation guide for OMRON SMARTSTEP2. You'll find the answers to all your questions on the OMRON SMARTSTEP2 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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The advertisement features the OMRON logo at the top right. The main title is "SMARTSTEP 2 SERVO SYSTEM" with the tagline "A new step in servodrive simplicity" below it. The background is a green-tinted industrial scene with a servo drive and a servo motor in the foreground. At the bottom, there are three bullet points: "» Precise and cost-effective", "» Ultra-compact design", and "» Simple to use and set up". The "realizing" logo is at the bottom center.



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Manual abstract:

...to faster development with great drive simplicity Getting started quickly CX-Drive is a single, easy-to-use software tool for configuring, commissioning and maintaining both inverters and servos. SmartStep 2 is fully supported with a wide range of features making the servo drive set-up easier and faster than ever: · Auto-tuning · Parameter editing and monitoring · Speed and position diagrams · I/O status and alarms · Real-time data trace Real-time data trace Frequency analysis A compact design that's easy to connect Although it has more functionality than previous models, SmartStep 2 has a compact design with an ultra-small footprint that saves considerable space. In addition, SmartStep 2 can be easily integrated with other automation devices such as the CP1L compact machine controller and NS operator terminals, helping to make an efficient and cost-effective machine design. Additional features: · · · Position control via pulse input 500 kpps Rated speed 4,000 rpm; peak 5,000 rpm Wide range of pulse configurations Four internal speed settings switched by external signal for easy control Servomotors compatible with SmartStep · 130 mm 105 mm Command pulse 120 mm 160 mm AUTO Feedback pulse 35 mm 55 mm CP1H-Yxx Vibration Quickly suppression vibration Compact space-saving design SmartStep 2 has a footprint 48% smaller than that of previous models and the volume is 39% smaller, saving cabinet space and costs. Feedback pulse output Enables servo position feedback to the controller for close control position loop and monitor real positioning; it can be also used to synchronise with another axis. Adjustment-free operation Depending on load variations, the real-time auto-tuning function automatically calculates and adjusts the optimum gain values for the machine. Vibration suppression An adaptive filter ensures that resonant frequency changes are automatically followed to reduce the effect of vibration due to low mechanical rigidity.

A further filter minimises vibration for better positioning when stopping the load. R7D-BP@, R88D-GP@, R88M-G@ SmartStep 2 servo system Another step forward in drive simplicity · On-line Auto-tuning and Easy set up · Ultra-compact size. The footprint is only 48% that of the SmartStep series · Two torque limits · Electronic gear, four internal speed settings and wide range of pulse settings · Adaptive filters for suppression of vibration and resonance · Servomotors with IP65 as standard and shaft oil seal available · Motors with brake as option Ratings · 230 VAC single-phase 50 W to 750 W (0.16 to 2.4 Nm) System configuration (Refer to chapter SmartStep servo motors) SmartStep 2 Servo Motor SmartStep 2 Servo Drive Personal computer software: CX-One Encoder cable Position control unit Power cable Position control unit Terminal block General purpose controller (with pulse output) 6 AC servo systems Servo drive type designation R7D-BP01H SmartStep 2 Servo Drive Drive Type P: Pulse input control Source voltage H: HH: Single-phase 230 VAC for 100/400 W Single-phase 230 VAC for 200 W Capacity 01 02 04 100 W 200 W 400 W R88D-GP08H SmartStep 2 Servo Drive (750 W) Drive Type P: Pulse input control Source voltage H: 230 V Capacity 08 750 W Servo drive specifications General specifications Item Ambient operating temperature Ambient operating humidity Ambient storage temperature Ambient storage humidity Storage/operating atmosphere Vibration resistance Impact resistance Insulation resistance Dielectric strength Protective structure International standards Specification 0 to 55°C 90% max.

(with no condensation) -20 to 65°C 90% max. (with no condensation) No corrosive gases. 10 to 60 Hz; acceleration : 5.9 m/s²(0.6G) max. Acceleration 19.6 m/s² max., 3 times each in X, Y, and Z directions, Between power supply/power line terminals and frame ground: 0.5 M min. (at 500 VDC) Between power supply/power terminals and frame ground: 1,500 VAC for 1 min at 50/60 Hz Between each control signal and frame ground: 500 VAC for 1 min Built into panel (IP10). @@(with no condensation) -20 to 65°C 85% max. (with no condensation) No corrosive gases 49 m/s² max. in the X, Y, and Z directions Acceleration of 98 m/s² max. 3 times each in the X, Y, and Z directions 20 M min. @@70 max.

@@@35 max. 20 max. 1.8 × 10⁻⁶ 24 VDC ±10% 9 0.36 1.27 min. 50 max. 15 max. ±1° max. Continuous 10,000,000 operations min.

@@@50 max. 60 max. 15 max. ±1° max. Continuous 10,000,000 operations min.

BP02HH 10 0.41 1.27 min. BP01H BP04H Torque-speed characteristics R88M-GPting voltage: 30 VDC Maximum Output Current: 50 mA DC RUN Command Input RUN 2 Alarm Reset Input RESET 3 4.7 k 14 Deviation Counter Reset Input ECRST 4 4.

7 k Gain Switch Input 15 +A GSEL 5 4.7 k 18 +B Electronic Gear Switch Input GESEL 6 4.7 k Reverse Drive Prohibit Input Encoder B-phase 17 -B Output 19 +Z Encoder Z-phase 20 -Z Output 4.7 k Forward Drive Prohibit Input Encoder A-phase 16 -A Output Line driver output Conforms to EIA RS-422A (Load resistance: 220 min.) NOT 7 POT 8 Shell, 26 FG Frame ground *1. An External Regeneration Resistor can be connected. @@@@*2 Use only when an absolute encoder. @@@@signals (with M3.5 screw and for fork/round terminals) Terminal block ext. signals (with M3 screw and fork/round pin terminals) Cable from servo relay unit to servo drive CS1W-NC1@3, CJ1W-NC1@3, C200HW-NC113, CS1W-NC2@3/4@3, CJ1W-NC2@3/4@3, C200HW-NC213/413, CQM1H-PLB21 or CQM1-CPU43-V1 CJ1M-CPU21/22/23 Servo relay unit CS1W-NC1@3, CJ1W-NC1@3 or C200HW-NC113 position control unit CS1W-NC2@3/4@3, CJ1W-NC2@3/4@3 or C200HW-NC213/413 position control unit CQM1H-PLB21 or CQM1-CPU43-V1 CJ1M-CPU21/22/23 J SmartStep 2 servo system 17 Symbol Description Position control unit connecting cable K Connect to CJ1W-NC133 CJ1W-NC233/433 CS1W-NC133 CS1W-NC233/433 CJ1W-NC113 CJ1W-NC213/413 CS1W-NC113 CS1W-NC213/413 C200HW-NC113 CS1W-NC213/413 C200HW-NC213/413 CJ1M-CPU21/22/23 CQM1H-PLB21 CQM1-CPU43-V1 L M N General purpose cable Terminal block cable Terminal block (with M3 screw and for pin terminals) Terminal block (with M3.

5 screw and for fork/round terminals) Terminal block (with M3 screw and fork/round pin terminals) For general purpose controllers For general purpose controllers 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.

5 m 1m 1m 2m 1m 2m - Model XW2Z-050J-A18 XW2Z-100J-A18 XW2Z-050J-A19 XW2Z-100J-A19 XW2Z-050J-A10 XW2Z-100J-A10 XW2Z-050J-A11 XW2Z-100J-A11 XW2Z-050J-A14 XW2Z-100J-A14 XW2Z-050J-A15 XW2Z-100J-A15 XW2Z-050J-A6 XW2Z-100J-A6 XW2Z-050J-A7 XW2Z-100J-A7 XW2Z-050J-A33 XW2Z-100J-A33 XW2Z-050J-A3 XW2Z-100J-A3 R7A-CPB001S R7A-CPB002S XW2Z-100J-B28 XW2Z-200J-B28 XW2B-34G4

XW2B-34G5 XW2D-34G6 Cable for CN3 Symbol Name Personal Computer Monitor Cable O Lengh 2m Model R88A-CCG002P2 Filters Symbol Applicable servo drive R7D-BP01H/ 02HH/ 04H P Rated current 4A Rated voltage 1 pH, 230 V Filter model R7A-FIB104-RE Connectors Specifications Main Circuit Connector (CNA) Servomotor Connector (CNB) Control I/O Connector (CN1) Encoder Input Connector (CN2) Servomotor Connector for Encoder Cable Servomotor Connector for Servomotor Power Cable Brake Cable Connector Model R7A-CNB01P R7A-CNB01A R88A-CNW01C R88A-CNW01R R88A-CNG02R R88A-CNG01A R88A-CNG01B External regeneration resistor Specification 80 W, 50 80 W, 100 220 W, 47 Model R88A-RR08050S R88A-RR080100S R88A-RR22047S External regeneration resistor cable Specifications External Regenerative Resistor Connection Cable, 2 meters Model R7A-CLB002RG Parameter unit & computer software Specifications Parameter copy unit (with cable) Configuration and monitoring software tool for servo drives and inverters.



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(CX-drive version 1.8 or higher) Model R88A-PR02G CX-drive 18 AC servo systems SmartStep2 Servo Drive Configuration (750W) (Refer to chapter SmartStep servo motors) Personal computer software: CX-One SmartStep 2 Servo Drive (750W model) B O A SmartStep 2 Servo Motor (750W) Position control unit -High-speed type Terminal block for external signals P Filter Q D C E External regenerative resistor H F Position control unit G J K Power cable I L Encoder cable Position control unit Brake cable M N Terminal block General purpose signals (with pulse output) Note: The symbols ABCDE... show the recommended sequence to select the components in a SmartStep 2 servo system. Servo drives Symbol Specifications 1 phase 200 VAC 750 W Servo drive model R88D-GP08H A B Compatible rotary servo motors Cylindric type R88M-G75030H-@ Encoder Cables Symbol C Specifications Encoder cable R88M-G75030H-@ 1.5 m 3m 5m 10 m 15 m 20 m Model R88A-CRGB001-5CR-E R88A-CRGB003CR-E R88A-CRGB005CR-E R88A-CRGB010CR-E R88A-CRGB015CR-E R88A-CRGB020CR-E Appearance Power cables Symbol D Specifications For 750W servomotors without brake R88M-G75030H-S2 For servomotors with brake, a separate cable (R88A-CAGA@BR-E) is needed 1.5 m 3m 5m 10 m 15 m 20 m Model R88A-CAGA001-5SR-E R88A-CAGA003SR-E R88A-CAGA005SR-E R88A-CAGA010SR-E R88A-CAGA015SR-E R88A-CAGA020SR-E Appearance Brake cable Symbol E Specifications Brake cable only. For R88M-G75030H-BS2 servomotors.

1.5 m 3m 5m 10 m 15 m 20 m Model R88A-CAGA001-5BR-E R88A-CAGA003BR-E R88A-CAGA005BR-E R88A-CAGA010BR-E R88A-CAGA015BR-E R88A-CAGA020BR-E Appearance Control cables (for CN1) Symbol F Description Control cable (line-driver output for 1 axis) Control cable (open-collector output for 1 axis) Control cable (line-driver output for 2 axis) Control cable (open-collector output for 2 axis) Connect to Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434 Position control units (high-speed type) CJ1W-NC214 CJ1W-NC414 Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434 Position control units (high-speed type) CJ1W-NC214 CJ1W-NC414 1m 5m 10 m 1m 3m 1m 5m 10 m 1m 3m Model XW2Z-100J-G9 XW2Z-500J-G9 XW2Z-10MJ-G9 XW2Z-100J-G13 XW2Z-300J-G13 XW2Z-100J-G1 XW2Z-500J-G1 XW2Z-10MJ-G1 XW2Z-100J-G5 XW2Z-300J-G5 SmartStep 2 servo system 19 Symbol G H I J 0.5 m 1m 2m 3m 5m 10 m Terminal block for external signals (M3 screw, pin terminals) Terminal block ext. signals(M3.5 screw, fork/round terminals) Terminal block ext. signals(M3 screw, fork/round terminals) Cable from servo relay unit to servo drive CS1W-NC1@3, CJ1W-NC1@3, C200HW-NC113/213/413, 1 m CS1W-NC2@3/4@3, CJ1W-NC2@3/4@3 or 2m CQM1H-PLB21 CJ1M-CPU21/22/23 1m 2m Servo relay unit CS1W-NC1@3, CJ1W-NC1@3 or C200HW-NC113 position control unit CS1W-NC2@3/4@3, CJ1W-NC2@3/4@3 or C200HW-NC213/413 position control unit CQM1H-PLB21 CJ1M-CPU21/22/23 Position control unit connecting cable CQM1H-PLB21 CS1W-NC113 or C200HW-NC113 CS1W-NC213/413 or C200HW-NC213/413 CS1W-NC133 CS1W-NC233/433 CJ1W-NC113 CJ1W-NC213/413 CJ1W-NC133 CJ1W-NC233/433 CJ1M-CPU21/22/23 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.

5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 0.5 m 1m 1m 2m 1m 2m - Description Terminal block cable for external signals (for input common, forward/reverse run prohibited inputs, emergency stop input, origin proximity input and interrupt input) Connect to Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434 CJ1W-NC214 CJ1W-NC414 Model XW2Z-C50X XW2Z-100X XW2Z-200X XW2Z-300X XW2Z-500X XW2Z-010X XW2B-20G4 XW2B-20G5 XW2D-20G6 XW2Z-100J-B25 XW2Z-200J-B25 XW2Z-100J-B31 XW2Z-200J-B31 XW2B-20J6-1B (1 axis) XW2B-40J6-2B (2 axes) XW2B-20J6-3B (1 axis) XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes) XW2Z-050J-A3 XW2Z-100J-A3 XW2Z-050J-A6 XW2Z-100J-A6 XW2Z-050J-A7 XW2Z-100J-A7 XW2Z-050J-A10 XW2Z-100J-A10 XW2Z-050J-A11 XW2Z-100J-A11 XW2Z-050J-A14 XW2Z-100J-A14 XW2Z-050J-A15 XW2Z-100J-A15 XW2Z-050J-A18 XW2Z-100J-A18 XW2Z-050J-A19 XW2Z-100J-A19 XW2Z-050J-A33 XW2Z-100J-A33 R88A-CPG001S R88A-CPG002S XW2Z-100J-B24 XW2Z-200J-B24 XW2B-50G4 XW2B-50G5 XW2D-50G6 K L M N General purpose cable Terminal block cable Terminal block (M3 screw and for pin terminals) Terminal block (M3.5 screw and for fork/round terminals) Terminal block (M3 screw and for fork/round terminals) For general purpose controllers For general purpose controllers Computer cable (for CN3) Symbol Connectors 2m Model R88A-CCG002P2 Specifications I/O connector kit -50 pins- (for CN1) Power cable connector (motor side) Encoder connector (Servo drive side CN2) Incremental encoder cable connector (motor side) Model R88A-CNU11C R88A-CNG01A R88A-CNW01R R88A-CNG02R O Filter Symbol Name Computer cable RS232 Applicable servodrive R88D-GP08H P Rated Leak- Rated current age voltage current R88A-FIK107-RE 6.6 A 3.5 mA 250 VAC singlephase Filter model Computer software Specifications Model Configuration and monitoring software tool for servo drives CX-Drive and inverters (CX-drive version 1.91 or higher).

External regenerative resistor Symbol Q Regenerative resistor unit model R88A-RR08050S R88A-RR080100S R88A-RR22047S R88A-RR50020S Specifications 50 , 80 W 100 , 80 W 47 , 220 W 20 , 500 W 20 AC servo systems OMRON EUROPE B.V. Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. @@.



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