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You can read the recommendations in the user guide, the technical guide or the installation guide for OMRON H5S. You'll find the answers to all your questions on the OMRON H5S 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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OMRON

**Digital Time Switch
H5S**

Easier, More Convenient Time Switches, with New 4-circuit Output and Yearly Models in Addition to 2-circuit Weekly Models

- Independent Day Keys provide easier operation.
- Temporary holiday setting function makes it easy to turn OFF output for holidays and non-operating days.
- Settings can be made even with the Time Switch turned OFF.
- Test mode enables easy program checking.
- Complies with EMC Directives, UL/CSA, and other safety standards.
- Includes summer time (DST) adjustment.
- Yearly models also offer automatic switching to DST.
- Set value can be changed both upward and downward for speedier setting.
- Integrated temperature compensation circuit helps keep accurate time over a wide temperature range. (See note 1.)
- Includes time counter and total counter functions with alarm indicator. (See note 2.)
- Bank function allows program switching by an external input. (See note 3.)
- New 4-circuit output models with a compact, 72 x 72-mm DIN size added to the series.

Note: 1. Available only on yearly models.
2. Available only on 2-circuit models.
3. Available only on weekly models.

Features

Easier and More Convenient to Use

■ **Simple Setting**

Independent Day Keys make setting easy.

Up/down set value changing for speedier setting.


Temporary holidays (non-operating days) are also easy to set.

Yearly models: Specify the day.
Weekly models: Specify the date.

■ **Convenient Functions**

Time Counter/Total Counter Functions (See note.)

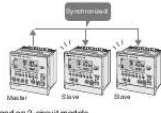
This function makes it possible to monitor the total time that a load has been supplied, or the total number of operating cycles. It allows the Time Switch to be used for managing maintenance.




NEW

Time Adjustment Function (See note.)

The time can be set to 00 min 00 s by using an external input. The times on multiple Time Switches can also be easily synchronized.



Note: Equipped on 2-circuit models.



Shows total lamp ON time.

Digital Time Switch **H5S** 1



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Manual abstract:

· Test mode enables easy program checking. @ @ · Includes summer time (DST) adjustment. Yearly models also offer automatic switching to DST. @ @ · Integrated temperature compensation circuit helps keep accurate time over a wide temperature range. (See note 1.) · Includes time counter and total counter functions with alarm indicator. (See note 2.) · Bank function allows program switching by an external input. (See note 3.) · New 4-circuit output models with a compact, 72 × 72-mm DIN size added to the series.

Note: 1. Available only on yearly models. 2. Available only on 2-circuit models. 3.

Available only on weekly models. Features Easier and More Convenient to Use Simple Setting Independent Day Keys make setting easy. Up/down set value changing for speedy setting. Temporary holidays (non-operating days) are also easy to set. Weekly models: Specify the day.

Yearly models: Specify the date. Time Adjustment Function (See note.) The time can be set to 00 min 00 s by using an external input. The times on multiple Time Switches can also be easily synchronized. Synchronized! Convenient Functions Time Counter/Total Counter Functions (See note.) This function makes it possible to monitor the total time that a load has been applied, or the total number of operating cycles. It allows the Time Switch to be used for managing maintenance. Master Slave Slave Note: Equipped on 2-circuit models. With alarm indicator Shows total lamp ON time Digital Time Switch H5S 1 More Applications on New Series Models Yearly Models Automatic Program Switching by Seasons The yearly operation can be set to automatically change the weekly program depending on the season. (See note.)

) Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb 4-circuit Models Space-saving, Economical 4-circuit Models Added to the Series The new 4-circuit models are 72 × 72-mm DIN size. Their spacesaving size allows use in more applications. Spring Summer Summer 19:00 ON 22:00 OFF Autumn Autumn 18:00 ON 21:00 OFF Winter Winter 17:00 ON 21:00 OFF Spring Season (See note 2.) Program 17:30 ON example 21:00 OFF Control all four floors with a single unit. Note: Up to four seasons can be set for 4-circuit models, and up to two seasons for 2-circuit models. Temperature Compensation Circuit Maintains Accurate Time A temperature compensation circuit is provided in the yearly models to maintain accurate time keeping even when the ambient temperature varies greatly. This ensures precise operation with minimal time lags all year round, regardless of temperature changes. Model Number Structure Model Number Legend Note: This model number legend includes combinations that are not available. Please check the "List of Models" for availability. H5S- @ @ @ @ - @ 12345 6 4.

Number of outputs 2: 2 circuits 4: 4 circuits 5. Supply voltage None: 100 to 240 VAC D: 24 VDC 6. Time accuracy None: Standard X: With temperature compensation 1. Control cycle W: Weekly Y: Yearly 2. Mounting method None: Flush mounting F: Surface mounting/track mounting 3.

Panel language B: English A: Japanese 2 Digital Time Switch H5S Ordering Information List of Models Control cycle Weekly Number of outputs 2 circuits Mounting method Flush mounting Surface mounting/ track mounting Yearly 2 circuits Flush mounting Surface mounting/ track mounting 4 circuits Flush mounting Surface mounting/ track mounting Supply voltage 100 to 240 VAC 24 VDC 100 to 240 VAC 24 VDC 100 to 240 VAC 24 VDC 100 to 240 VAC 24 VDC Models H5S-WB2 H5S-WB2D H5S-WFB2 H5S-WFB2D H5S-YB2-X H5S-YB2D-X H5S-YFB2-X H5S-YFB2D-X H5S-YB4-X H5S-YB4D-X H5S-YFB4-X H5S-YFB4D-X Accessories (Order Separately) Name Large Terminal Cover (in pairs) Protective Cover Track Mounting Base Y92A-72H Y92A-72C Y92F-90 Model Specifications Ratings Item Rated supply voltage Operating voltage range Power consumption Control Number of circuits outputs Circuits Capacity Weekly 2-circuit Models (H5S-W@2) AC: 85% to 110% rated supply voltage DC: 85% to 120% rated supply voltage Approx. 2.9 VA at 264 VAC 60 Hz Approx. 3.2 VA at 264 VAC 60 Hz Approx. 3.5 VA at 264 VAC 60 Hz Approx. 0.8 W at 28.8 VDC Approx. 0.9 W at 28.8 VDC Approx. 1.0 W at 28.

8 VDC SPST-NO × 2 circuits Power supply circuit and other (no-voltage) circuit 3 A at 250 VAC 2 A at 250 VAC (cos = 0.4) SPST-NO × 4 circuits Yearly 2-circuit Models (H5S-Y@2) Yearly 4-circuit Models (H5S-Y@4) 100 to 240 VAC (50/60 Hz), 24 VDC (See note 1.) Resistive load 15 A at 250 VAC (See note 2.) (cos = 1) Inductive load 10 A at 250 VAC (cos = 0.7) Ambient operating temperature Ambient operating humidity Storage temperature Case color -10 to 55°C (with no icing or condensation) 25 to 85% -25 to 65°C (with no icing or condensation) Light gray (Munsell 5Y7/1) Note: 1. Do not use inverter output as a power supply. For details, refer to Precautions for Safe Use, item 24, on page 12. 2. The capacity is 15 A per circuit, but derating of the total current for two circuits is required as shown below depending on the ambient temperature. Total current (A) 40 30 20 10 0 10 0 20 40 50 55 60 80 Ambient temperature (°C) Digital Time Switch H5S 3 Characteristics Item Accuracy of operating time Setting error Influence of voltage Influence of temperature Cyclic error Memory protection Insulation resistance Dielectric strength Weekly 2-circuit Models (H5S-W@2) Yearly 2-circuit Models (H5S-Y@2) Yearly 4-circuit Models (H5S-Y@4) ±0.

01%±0.05 s max. (See note 1.) The ±0.01% value applies to the set time interval.

±15 s per month (at 25°C) ±15 s per month (at -10 to 45°C), ±20 s per month (at 45 to 55°C) Continuous use: 5 years min. (at 25°C) (See note 2.) 100 M min. (between current-carrying terminals and exposed non-current carrying metal parts, between operation circuit and control output circuit, between control output circuits, and between non-continuous contacts.) 2,950 VAC, 50/60 Hz for 1 min (between current-carrying terminals and exposed non-current carrying metal parts) 2,000 VAC, 50/60 Hz for 1 min (between operation circuit and control output circuit, and between control output circuits) 1,000 VAC, 50/60 Hz for 1 min (between non-continuous contacts) Noise immunity Vibration resistance Shock resistance ±1,500 V (between power terminals, for AC power models), ±500 V (between power terminals, for DC power models) Square-wave noise by noise simulator (pulse width: 100 ns, for 1 μs, 1-ns rise time) Destruction 10 to 55 Hz with 0.

375-mm single amplitude in 3 directions for 2 hours each Malfunction 10 to 55 Hz with 0.25-mm single amplitude in 3 directions for 10 minutes each Destruction 300 m/s² 3 times each in x, y, and z axes, 6 directions Malfunction 100 m/s² 3 times each in x, y, and z axes, 6 directions 100,000 operations min.



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50,000 operations min. (15 A at 250 VAC, resistive load) 50,000 operations min. (10 A at 30 VDC, resistive load) 50,000 operations min. (10 A at 250 VAC, inductive load (cos = 0.7)) 50,000 operations min. (1 HP at 250 VAC, motor load) 50,000 operations min. (100 W at 100 VAC, lamp load) 10,000 operations min. (300 W at 100 VAC, lamp load) cURus: UL 508/CSA C22.

2 No.14, Conforms to EN 60730-2-7(Pollution degree 2/overvoltage category II), Conforms to VDE 0106/part100. Conforms to Electrical Appliance and Material Safety Law (for Japan) EN 60730-2-7 EN 60730-2-7 (CISPR 22 Class B) EN 60730-2-7 (CISPR 22 Class B) EN 60730-2-7 (CISPR 14-1) EN 60730-2-7 (IEC 61000-3-2 Class A) EN 60730-2-7 (IEC 61000-3-3) EN 60730-2-7 EN 60730-2-7 (IEC 61000-4-2): 6 kV contact discharge 8 kV air discharge Radiated Electromagnetic Field Immunity: EN 60730-2-7 (IEC 61000-4-3): 10-V/m AM modulation (80 MHz to 1 GHz, 1.4 GHz to 2 GHz) 10-V/m pulse modulation (900 MHz) Conducted Disturbance Immunity: EN 60730-2-7 (IEC 61000-4-6): 10 V (0.15 to 80 MHz) Burst Immunity: EN 60730-2-7 (IEC 61000-4-4): 2 kV power line 1 kV control line Surge Immunity: EN 60730-2-7 (IEC 61000-4-5): 1 kV line to line (power line, output line) 2 kV line to ground (power line, output line) 0.5 kV line to line (input line) 1 kV line to ground (input line) Voltage Dip/Interrupting Immunity: EN 60730-2-7 (IEC 61000-4-11): 0.5-s cycle, 100% (rated voltage) Approx. 200 g (EMI) EMI Radiated: EMI Conducted (Continuous): EMI Conducted (Non-continuous): Harmonic Current: Voltage fluctuation/flicker: (EMS) ESD Immunity: 50,000 operations min. (3 A at 250 VAC, resistive load) 50,000 operations min. (3 A at 30 VDC, resistive load) Life Mechanical expectancy Electrical Approved standards EMC Weight Note: 1.

The total error including the repeat accuracy, setting error, variation due to voltage change, and variation due to temperature change is $\pm 0.01\%$ ± 0.05 s max. 2. The total time when power is not being supplied.

4 Digital Time Switch H5S Operation Item Operation method Operation period Display Weekly 2-circuit Models (H5S-W@2) Digital quartz 1 week (7 days) 1 year (with integrated calendar to 2099) · Day, hrs (switchable between 24-hr indication and a.m./p.m. 12-hr indication), minutes, seconds (0.00 to 23:59, 0.00 to 11:59 a.m., 0.00 to 11:59 p.m.) · Digital indication by LCD (character height: 10 mm) · Digital display of operation schedule during operation · Timing chart display of operation schedule during operation 1 min 48 steps/circuit (See note 2.) 24 steps/circuit (See note 3.) 4 yearly programs/circuit 16 48 steps/circuit (See note 2.) 12 steps/circuit (See note 3.)

) Yearly 2-circuit Models (H5S-Y@2) Yearly 4-circuit Models (H5S-Y@4) Min. setting unit Number of Weekly program 40 steps/circuit steps that (See note 1.) can be set Yearly program ---Number of settable yearly temporary holiday settings Note: 1. Depending the operation, the following steps can be used for weekly programs. Timer operation: 2 steps Pulse-output operation: 1 step Cyclic operation: 4 steps 2. When the season switching setting is not being used. 3. When the season switching setting is being used. Operation Functions Item Weekly timer operation Weekly pulseoutput operation Weekly cyclic operation Weekly 2-circuit Models (H5S-W@2) Timer operation ON OFF Yearly 2-circuit Models (H5S-Y@2) Yearly 4-circuit Models (H5S-Y@4) Controls the output according to the set time of ON and OFF. · Min.

setting unit: 1 min · Multiple-day operation also possible. Output turns ON for a fixed period (pulse width) at the set ON time. · Pulse width: 1 to 59 s (in 1-s increments), or 1 to 60 min (in 1-min increments) · The pulse width can be set for each step. Repeatedly turns ON and OFF during the period from the cyclic start time to the stop time. Independent ON- and OFF-time settings are possible.

· Min. setting unit: 1 min Pulse output operation Pulse width ON Cyclic operation OFF Start ON Stop Yearly timer operation Yearly pulseoutput operation Temporary holiday setting Day override operation ---- Adds a yearly timer operation to the weekly timer program. For details, refer to About Yearly Programs on page 18. Adds a yearly pulse-output operation to the weekly pulse-output program. For details, refer to About Yearly Programs on page 18. Sets temporary holidays (non-operating days) without having to revise the existing program. For details, refer to Setting Temporary Holidays (Weekly) and Setting Temporary Holidays (Yearly) on page 20. Executes the operation for one day temporarily on another day in the 7-day period starting from the current day. For details, refer to Day Override Operation on page 21. --- Program check Consecutively displays the days and times when the output is set to turn ON and OFF over the course of one week in the sequence in which the Time Switch is to operate. For details, refer to Program Check Function on page 21.

Digital Time Switch H5S 5 Item Checking the settings Weekly 2-circuit Models (H5S-W@2) Yearly 2-circuit Models (H5S-Y@2) Yearly 4-circuit Models (H5S-Y@4) Consecutively displays the times when the output is set to turn ON and OFF for one day in the sequence in w, this key decrements the value for the operation just completed. (4-circuit models) In RUN mode, this key shifts the Time Switch to the Holiday Setting mode. When selecting the output, this key is used to set the circuit (output) number. In Setting mode or Time Adjustment mode, this key decrements the value for the operation just completed.

Sets parameters. Used to set the current time, ON/OFF time, or pulse width. Used to reset all parameters, including the current time. In RUN mode, this key sets or cancels summer time (+1 h) In Setting mode, this key clears the parameter. In RUN mode (weekly models only), this key shifts the Time Switch to the Day Override operation setting mode. In Setting mode, this key shifts the Time Switch to cyclic operation setting. In RUN mode, this key shifts the Time Switch to the Program Check mode. In Setting mode (yearly models only), this key is used to set the yearly program. This key shifts the Time Switch to the time adjustment mode. TIMER: Executes a timer or cyclic operation.

PULSE: Executes a pulse-output operation. ON: Turns ON the output regardless of the setting. AUTO: Executes automatic operation as specified by these settings. OFF: Turns OFF the output regardless of the setting. · Used to set the current day, operating day, etc. · Used to specify the date (yearly models only) · In RUN mode, these keys are used to shift the Time Switch to the Checking the Settings mode. 1. Mode Switch 13. Day Keys 12. Output ON/OFF Switches 11.

Output Setting Switches 10. Time Adjustment Key 9. Test Key 2. Holiday/ Down Key 3. Write Key 4. m/Pulse Key 5. h Key 6. Reset Key 8. Copy/Cycle Key 7. +1h/Clear Key 2 (Yearly 2-circuit models) 3 4 5 1.



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Mode Switch 6 7 8 13. Day Keys 12. Output ON/OFF Switches 11. Output Setting Switches 10. Time Adjustment Key 9. Test/ Year Key 2. Holiday/ Down Key 3. Write Key 4. m/Pulse Key 5. h Key 6.

Reset Key 8. Cycle Key 7. +1h/Clear Key 9 10 11 12 (Yearly 4-circuit models) 13 1. Mode Switch 13. Day Keys 12.

Output ON/OFF Switches 11. Output Setting Switches 10. Time Adjustment Key 9. Test/ Year 8. Cycle Key Key 2.

Holiday/ Select Program/ Down Key 3. Write Key 4. m/Pulse Key 5. h Key 6. Reset Key 7. +1h/Clear Key 8 Digital Time Switch H5S Display (Weekly 2-circuit models) 3. Summer time indicator 1. Power indicator 2. AM/PM indicator 18. Output circuit number indicator 17.

Day indicator 16. Time adjustment mode indicator 11. Bank indicator 12. From/To indicator 14. Copy indicator 4. Main display 5. Pulse width unit indicator 6. Total value alarm indicator 7. Display of number of remaining steps 8. Set circuit number indicator 9.

Sub-display 2. AM/PM indicator 10. Timing chart display 13. Holiday indicator Display Description No. 1 2 3 4 5 6 7 8 Function Lights when power is supplied to the Time Switch.

When 12-hour display is selected, either AM or PM lights. (24-hour display is the default.) Lights when summer time (+1 h) is activated. Displays the current time and other values. Displays the unit for the pulse width.

Lights when the total time or count value exceeds the alarm setting. Displays the number of remaining steps for programming in setting mode. Displays the number of the circuit (output) that has been set. Displays the time for the next operation, the date (yearly models only), and other values. Displays the next operation and other information in chart form. Displays the bank name (weekly models) or season name (yearly models). Lights when setting the ON/OFF time or when setting a day override operation. Lit during the temporary holiday operation or when setting a temporary holiday. Lit during the day override operation or when setting a day override operation. Lit during setting a yearly program.

Flashes during the Time Adjustment mode. Displays the current day or the day set for an operation. Displays the number of the circuit (output) for which output is ON. (Yearly 2-circuit models) 3. Summer time indicator 1. Power indicator 2. AM/PM indicator 18. Output circuit number indicator 17. Day indicator 16. Time adjustment mode indicator 11.

Season indicators 12. From/To indicator 13. Holiday indicator 4. Main display 5. Pulse width unit indicator 6.

Total value alarm indicator 7. Display of number of remaining steps 8. Set circuit number indicator 9. Sub-display 2. AM/PM indicator 10.

Timing chart display 15. Year indicator 9 10 11 12 13 14 15 16 (Yearly 4-circuit models) 3. Summer time indicator 1. Power indicator 2. AM/PM indicator 18. Output circuit number indicator 17. Day indicators 16. Time adjustment mode indicator 11. Season indicator 12. From/To indicator 13.

Holiday indicator N 17 4. Main display 5. Pulse width unit indicator 7. Display of number of remaining steps 8. Set circuit number indicator 9. Sub-display 2. AM/PM indicator 10. Timing chart display 15. Year indicator 18 Digital Time Switch H5S 9 Dimensions Note: All units are in millimeters unless otherwise indicated. Digital Time Switch Flush Mounting Model H5S-@A@/-@B@ 72 9.

5 6 (53.2) 49 Two terminal covers (included) Four M3 x 8 screws (included) for mounting the terminal covers Panel Cutout 68+0.8 0 H5S TIME SWITCH 72 (75 x 75) 67.6 x 67.6 68+0.

8 0 (12.5) Two M4 x 12 screws (included) for the mounting bracket Mounting bracket (included) Protective Cover Y92A-72C (Order separately) 9.5 49 Note: 1. The terminal screws are M3.5.

2. This illustration shows a 2-circuit model. The 4-circuit model has the same dimensions. Surface Mounting Model H5S-@FA@/-@FB@ Mounting holes for four M4 screws 72 63.2 56 (61.5) 58.5 55 49 (9.5) Mounting panel Note: Panel thickness: 1 to 5 mm (Surface mounted) (20.2) 16 Mounting holes 4-dia. * H5S TIME SWITC H 96 89 72 (75 x 75) 89±0.

2 Y92F-90 DIN Track Mounting Base (Order separately) Protective Cover Y92A-72C (Order separately) Four M3 x 8 screws (included) for mounting terminal covers Two terminal covers (included) 56±0.15 Mounting panel *Diameter of pilot holes for included M4 tapping screws (guideline) Panel thickness t 0.8 to 1.2 1.6 to 4 Hole diameter 3.6 3.7 (With the large terminal cover (order separately) attached) 66.7 37 17.7 (DIN track mounted) Y92F-90 DIN Track Mounting Base (Order separately) DIN Track When using the product in an exposed mounting condition, always use the Y92A-72H Large Terminal Cover (order separately) to comply with Electrical Appliance and Material Safety Law (for Japan). 126.

7 Mounting panel Four M3 x 8 screws for mounting the Y92A-72H Large Terminal Cover (included with the Y92A-72H) Y92A-72H Large Terminal Cover (Order separately) 71.1 *1 79.8 *2 Note: 1. Using a PFP-50N or PFP-100N Mounting Track. 2.

Using a PFP-100N2 Mounting Track. Use a tool such as long nose pliers to prepare the openings for pulling wires. Note: 1. The terminal screws are M3.5.

2. This illustration shows a 2-circuit model. The 4-circuit model has the same dimensions. 10 Digital Time Switch H5S Accessories (Order Separately) Protective Cover Y92A-72C DIN Track Mounting Base Y92F-90 Large Terminal Covers Y92A-72H (two per set) Note: The DIN Track Mounting Base can be used only with the surface mounting models (H5S-@FA@/-@FB@). Note: The Large Terminal Cover can be used only with the surface mounting models (H5S-@FA@/-@FB@). Track Mounting Accessories (Order Separately) Mounting Track PFP-100N PFP-50N PFP-100N2 7.3±0.15 4.5 35±0.3 27±0.

15 4.5 35±0.3 27 24 16 29.2 15 25 10 25 1,000 (500) * 25 10 25 15 (5) * 1 15 25 10 25 1,000 25 10 25 15 1 1.5 * The numbers in parentheses () are dimensions for the PFP-50N End Plate PFP-M M4 x 8 pan-head screw 10 6.2 1.8 Spacer PFP-S 5 1 35.5 35.3 1.8 16 12 50 34.

8 44.3 11.5 10 1.3 4.8 M4 spring washer 16.

5 Digital Time Switch H5S 11 Safety Precautions !CAUTION Minor injury by electric shock may occasionally occur. Do not touch any of the terminals while power is being supplied. Be sure to mount the terminal cover after wiring. When using a surface-mounting model in an exposed condition, always install the Y92A-72H terminal cover (separately purchased). Minor injury due to explosion may occasionally occur.

Do not use the product where subject to flammable or explosive gas. Minor electric shock, fire or malfunction may occasionally occur. Never attempt to disassemble, modify, or repair the product or touch any of the internal parts. Fire may occasionally occur. Tighten the terminal screws to the rated torque (from 0.98 to 1.17 N·m). Unexpected operation may occasionally occur. Before changing times or other settings while power is being supplied, either turn OFF the power on the load side or set the output ON/OFF switch to OFF and confirm the safety of the system.



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Minor electric shock, fire, or malfunction may occasionally occur.

Do not allow metal fragments, lead wire scraps, or shavings from installation work to fall inside the Time Switch. If the output relay is used beyond its life expectancy, its contacts may become fused or there may be a risk of burning. Use the product within its rated load and electrical life expectancy. The life expectancy of the output relay varies considerably according to its capacity and operating conditions. Serious injury may occasionally occur due to fire or explosion of a battery, or leakage from a battery. Never attempt to short the positive and negative terminals, recharge, disassemble, deform by applying excessive pressure, or expose the battery to fire. 10. Internal elements may be destroyed if a voltage outside the rated voltage is applied. 11. Be sure to wire the terminals correctly and use the correct polarity.

12. Separate equipment that produces input signals, input signal wiring, and the Time Switch from noise-generating sources and high-voltage lines containing noise. 13. Do not connect more than two crimp terminals to each Time Switch terminal. 14.

Up to two wires of the same size and type can be inserted into a single terminal. 15. Use the specified wires for wiring. Applicable wire: AWG 22 to AWG 14 (equal to a cross-sectional area of 0.326 to 2.

081 mm²) Solid wire or twisted wire Copper 16. Install a switch or circuit breaker that allows the operator to immediately turn OFF the power, and label it to clearly indicate its function. 17. Take adequate protective measures (such as a breaker, or fuse) for the power supply of the Time Switch. 18. When using heaters, be sure to use a thermal switch for the load circuit. 19. Always maintain the load current within specifications. 20. Use a switch, relay, or other contacts so that the rated power supply voltage will be reached within 0.

1 s. If the power supply voltage is not reached quickly enough, the power source may fail to reset or the outputs may fail to operate correctly. 21. Use a switch, relay, or other contact to turn the power supply OFF instantaneously. Outputs may malfunction and memory errors may occur if the power supply voltage is decreased gradually. 22. The Time Switch utilizes a transformerless power supply. Do not touch the input terminal while power is being supplied; touching live terminals may result in electric shock. 23. Use the Time Switch within the specified ratings for vibration and shock.

24. Use a commercial power supply when using AC power supply voltage input. Although some inverters specify their output frequency as 50/60 Hz, smoke or burning may occur from a rise in internal temperature. Do not use inverter output as the power supply. 25.

Do not leave the Time Switch for long periods at a high temperature with output current in the ON state. Doing so may result in the premature deterioration of internal components (e.g., electrolytic capacitors). 26.

Do not use organic solvents (such as paint thinner or benzene), strong alkaline, or strong acids to clean the case because they will damage the external finish. 27. None of the Time Switch components are user-replaceable, including the battery. 28. Use a tool such as long nose pliers to prepare the openings for pulling wires out of the optional Y92A-72H Large Terminal Cover. Attempts to form an opening by hand may result in injury. Precautions for Safe Use Please comply strictly with the following instructions which are intended to ensure safe operation of the product. 1. Have the Time Switch installed only by qualified electrical workers. 2.

Store the Time Switch within the specified ratings. If the Time Switch has been stored at temperatures of -10°C or lower, let it stand for three hours or longer at room temperature before turning ON the power supply. 3. Mounting the Time Switch side-by-side may reduce the life expectancies of internal components.

4. Use the Time Switch within the specified ratings for operating temperature and humidity. 5. Do not operate the Time Switch in any of the following locations. · Locations subject to sudden or extreme changes in temperature. · Locations where high humidity may result in condensation.

6. The Time Switch is not waterproof or oil resistant. Do not use it in locations subject to water or oil. 7. Do not use the Time Switch in locations subject to excessive dust, corrosive gas, or direct sunlight.

8. Install the Time Switch well away from any sources of excessive static electricity, such as pipes transporting molding materials, powders, or liquids. 9. Maintain voltage fluctuations in the power supply within the specified range. Precautions for Correct Use 1.

When the power is turned ON, an inrush current will flow for a short time (AC: Approx. 2.5 A (0.3 ms), DC: Approx. 1.1 A (3 ms)). Depending on the power supply capacity, operation may not start. Be sure to use a power supply with a sufficient capacity. 2. Inrush current generated by turning ON or OFF the power supply may deteriorate contacts on the power supply circuit.

Use to turn ON or OFF devices with a rated current of 10 A min. 12 Digital Time Switch H5S EN/IEC Standards · The insulation system between the power supply circuit and input/output terminals provides basic insulation. Therefore connect the output terminals only to circuits without exposed conductive parts. If a connection to a Safety Extra Low Voltage (SELV) circuit is desired, supplementary insulation must be provided. · Use crimp type cable lug terminals with insulating sleeves for wiring. · Be sure to mount a surface-mounting model (H5S-@FB@) in an enclosure. · The relationship between load current and ambient air temperature is shown by the range below for 2-circuit models. Total current (A) 40 30 20 10 0 10 0 20 40 55 60 80 Ambient temperature (°C) If wires with a temperature rating of 105 °C or higher are used, refer to the derating curve in Specifications on page 3. · Control system: Electronic Types of automatic operation: Weekly models - Type 1 BSTU Yearly models - Type 2 BSTU Protective class: Class 0 Rated impulse withstand voltage: 2,500 V AC Ball-pressure test temperature (enclosure material): 125°C Basic Use Prior to Using Before setting the parameters necessary for each operation, the operation of each circuit (output) must be determined. Begin by setting initial setting mode as required.

Open the front cover. Determine and set the operation of each circuit (output). Timer operation Pulse operation Set initial setting mode. The Initial Setting mode must be set to use the following functions. Common to all models: · Next Operation Display Switching Weekly models: · Time Counter/Total Counter Display · Time Adjustment Input · Manual Operation on Recovery from Power Failure · Bank Switching Yearly models: · Time Counter/Total Counter Display (See note.)

) · Time Adjustment Input (See note.) · Manual Operation on Recovery from Power Failure (See note.)



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) · Season Switching · Date Format Selection · Summer Time (DST) Adjustment Note: 2-circuit models only For details, refer to Using Advanced Functions on page 23. OUT P1 P2 RUN Set as necessary: SUN MON TUE WED THU FRI SAT HOLIDAY ON AUTO OFF OUT1 OUT2 Y M D SUN MON TUE WED THU FRI SAT HOLIDAY ON AUTO OFF OUT1 OUT2 Y M h D TIMER PULSE h m/PLS WRI R TEST OUT m/PLS WR TIME ADJ YEAR CYCLE CLEAR Note:

These settings are not required to use the basic Time Switch functions. Note: Pull the front cover open with your fingertips.

Note: Use the tip of a ball-point pen, or other sharp instrument, to make the settings. Digital Time Switch H5S 13 Time Adjustment (Weekly Models) Weekly, 2 Circuits Example: Set the current time to Saturday 17:28. 1. Set the Mode Switch to RUN. P1 P2 RUN Time Adjustment (Yearly Models) Yearly, 2 Circuits Yearly, 4 Circuits Example: Set the current time to 17:28 on August 15, 2006. 1. Set the Mode Switch to RUN. P1 P2 RUN 2 circuits Shaded portion indicates blinking of the indicator. PRGM RUN 4 circuits 2. Press TIME ADJ for 2 s or more.

The symbol flashes. Shaded portion indicates blinking of the indicator. 2. Press TIME ADJ for 2 s or more. The symbol flashes. SUN MON TUE WED THU FRI SAT 3. Press SAT. (The bar () mark at the Saturday position will turn ON.) Set the time with h and m. * SUN MON TUE WED THU FRI SAT 3. Specify the date by pressing Y, M and D. * 4. Press WRITE to enter the setting, and the Time Switch will start from 0 second. SUN MON TUE WED THU FRI SAT 4. Press WRITE.

Set the time with h and m. * * Holding down the h and m Keys rapidly advances the value. Pressing pressed. decrements the value of the key that was last 5. Press WRITE to enter the settings, and the Time Switch will start from 0 second.

Note: · When first turned ON or after a reset, the time adjustment display appears on the screen. Adjust the time by following steps 3 and 4. · If TIME ADJ is pressed again before pressing WRITE, the setting is cancelled. (The setting is not revised.) * Holding down the h and m Keys rapidly advances the value. Pressing pressed. SUN MON TUE WED THU FRI SAT decrements the value of the key that was last Note: · When first turned ON or after a reset, the time adjustment display appears on the screen. Adjust the time by following steps 3 through 5. · If TIME ADJ is pressed again before pressing WRITE, the setting is cancelled. (The setting is not revised.)

) 14 Digital Time Switch H5S Ordinary Timer Operation Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits Example: ON at 8:30 and OFF at 17:15 on Monday through Friday. SUN MON TUE WED THU FRI SAT Multiple-day Operation 1 Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits Example: ON continuously from 8:30 on Monday to 17:15 on Friday. SUN MON TUE WED THU FRI SAT 8:30 17:15 8:30 17:15 8:30 17:15 8:30 17:15 8:30 17:15 8:30 Number of remaining steps 17:15 Number of remaining steps 1. Set the Mode Switch to P1 or P2. @@Set the Mode Switch to P1 or P2.*1 (The Time Switch enters program setting mode.) For 4-circuit models, refer to page 18. P1 P2 RUN Shaded portion indicates blinking of the indicator. TIMER PULSE SUN MON TUE WED THU FRI SAT TIMER PULSE SUN MON TUE WED THU FRI SAT 2. Press the Day Keys to turn ON the bars () at the positions of Monday through Friday.

Set the ON time with h and m. *2 SUN MON TUE WED THU FRI SAT 2. Press the Day Keys to turn ON the bar () at the Monday position. Set the ON time with h and m. *2 SUN MON TUE WED THU FRI SAT 3.

Press WRITE. Set the OFF time with h and m. *3 3. Press WRITE. Press MON to flash the bar (turn ON the bar (position.

) at all day positions and press FRI to SUN MON TUE WED THU FRI SAT) at the Friday SUN MON TUE WED THU FRI SAT 4. Press WRITE to enter the settings. @@@@*2 Holding down the h and m Keys rapidly advances the value. Pressing pressed. decrements the value of the key that was last Set the OFF time with h and m. *2 4. Press WRITE to enter the settings. @@@@*2 Holding down the h and m Keys rapidly advances the value. Pressing decrements the value of the key that was last pressed. @@· Both the ON and OFF times must be set.

@@@@@@@@Set the Mode Switch to P1 or P2. @@@@@@@@@Set the ON time with h and m. *2 SUN MON TUE WED THU FRI SAT 2. @@@*2 SUN MON TUE WED THU FRI SAT 3. Press WRITE. @@@) SUN MON TUE WED THU FRI SAT 3. Press WRITE. Set the pulse width with PLS. @@@*2 4. Press WRITE to enter the settings.

@@@@*2 Holding down the h and m Keys rapidly advances the value. Pressing decrements the value of the key that was last pressed. 4. Press WRITE to enter the settings. @@@@*2 Holding down the h and m Keys rapidly advances the value.

Pressing decrements the value of the key that was last pressed. @@· Both the ON time and pulse width must be set. @@@@@@@@@@@@@@@@@@@@@@· Set cyclic operation so as not to overlap other operations in individual circuits. · The set data will be cleared if the Output Setting Switch is moved between the TIMER and PULSE positions after the data has been set. 8:00 19:00 Number of remaining steps 1.

Set the Mode Switch to P1 or P2. *1 (The Time Switch enters program setting mode.) For 4-circuit models, refer to page 18. P1 P2 RUN Shaded portion indicates blinking of the indicator. TIMER PULSE SUN MON TUE WED THU FRI SAT 2. Press CYCLE. (The Time Switch enters cyclic program setting mode.) SUN MON TUE WED THU FRI SAT 3. Press the Day Keys to turn ON the bar () at the Sunday position. Set the start time to 8:00 with h and m.

*2 SUN MON TUE WED THU FRI SAT 4. Press WRITE. Set the stop time to 19:00 with h and m. *2 SUN MON TUE WED THU FRI SAT 5. Press WRITE. Set the ON time period with h and m. *2 SUN MON TUE WED THU FRI SAT 6. Press WRITE. Set the OFF time period with h and m. *2 SUN MON TUE WED THU FRI SAT 7.

Press WRITE to enter the settings. @@@@*2 Holding down the h and m Keys rapidly advances the value. Pressing decrements the value of the key that was last pressed. Digital Time Switch H5S 17 Clearing the Settings Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits About Yearly Programs Yearly, 2 Circuits Yearly, 4 Circuits Yearly programs in addition to ordinary weekly programs can be set for 2- and 4-circuit yearly models. Example: Extend ordinary weekly operation from 18:00 to 22:15 on March 25 only.

3/22(THU) 3/23(FRI) 3/24(SAT) 3/25(SUN) 3/26(MON) Weekly Program Partial clearing 1. Set the Mode Switch to P1 or P2 and Shaded portion indicates select the setting to be cleared. blinking of the indicator. 2. Press CLEAR briefly.

3. Press WRITE to clear the setting. *9 18 9 18 9 18 Clearing all the settings in an entire circuit 1. Set the Mode Switch to the position for the circuit whose settings are to be cleared. 2. Press and hold CLEAR for 3 s or more.



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Shaded portion indicates blinking of the indicator. Yearly Program 18 22:15 Output performance of H5S 9 18 9 18 9 22:15 3. Press WRITE to clear all the settings of the circuit. * * The clearing operation can be cancelled by pressing CLEAR while clr is displayed.

Note: 1. This example combines the following programs. For details on yearly programming, refer to page 19. Weekly program Friday, Saturday, and Sunday: 9:00 (ON time), 18:00 (OFF time) Yearly program March 25: 18:00 (ON time), 22:15 (OFF time) 2. For details on automatically switching the weekly program depending on the season, refer to page 24. Programming for 4-circuit models Yearly, 4 Circuits The following shows how to program (select the output circuit number) for 4-circuit models. 1. Set the Mode Switch to PRGM. (The Time Switch enters program setting mode.) PRGM RUN Example: ON continuously from 18:00 on March 25, 2006, to 12:00 on April 9, 2006.

2006/3/24 3/25 3/26 4/7 4/8 4/9 18 12 Shaded portion indicates blinking of the indicator. To set multiple-day operation for a yearly program, two yearly programs must be set as shown in the following example. 2. Select an output circuit with SELECT PRGM . Pressing the key changes the set circuit number displayed in the lower right corner of the LCD.

1 2 3 4 Program A March 25, 2006 (Start date) April 8, 2006 (End date) 18:00 (ON time) 12:00 (OFF time) Note: Do not enter a weekly program. 3/25/2006 ProgramA 18 12 18 Program B March 26, 2006 (Start date) April 8, 2006 (End date) 8:00 (ON time) 22:00 (OFF time) SUN MON TUE WED THU FRI SAT The rest of the procedure is the same as for 2-circuit models. Note: The circuit number cannot be changed during the course of setting. 3/26 4/7 4/8 4/9 12 18 12 18 12 ProgramB 8 22 8 22 8 22 Output performance of H5S 18 12 18 Digital Time Switch H5S Yearly Timer Operation Yearly, 2 Circuits Yearly, 4

Circuits Example: ON at 18:00 and OFF at 22:15 on March 25 every year. Set the program in the following order. March 25, 2006 (Start date) Day period March 25, 2006 (End date) 18:00 (ON time) Time period 22:15 (OFF time) Shaded portion indicates blinking of the indicator. Yearly Pulse-output Operation Yearly, 2 Circuits Yearly, 4 Circuits Example: To produce output for 2 minutes at 18:00 from March 25 to April 9.

Set the program in the following order. March 25, 2006 (Start date) Day period April 9, 2006 (End date) 18:00 (ON time) Time period 2 minutes (Pulse width) Shaded portion indicates blinking of the indicator. 1. Set the Mode Switch to P1 or P2. For 4-circuit models, refer to page 18. P1 P2 RUN 1. Set the Mode Switch to P1 or P2. For 4-circuit models, refer to page 18.

P1 P2 RUN TIMER PULSE SUN MON TUE WED THU FRI SAT TIMER PULSE SUN MON TUE WED THU FRI SAT 2. Press YEAR for 1 s or more. (The Time Switch enters yearly program setting mode. *1) 2. Press YEAR for 1 s or more. (The Time Switch enters yearly program setting mode. *1) 3. Specify the start date using Y, m and D. *2 The year can be set from the current year to the next two years as shown in the example. If the year is set to "--", the operation performs every year.

<Example> If the current year is 2006, the displayed year changes as follows. -- 06 07 08 -- 06 4. Press WRITE . Specify the end date using Y, m and D. *2 If the starting year has been set to "--", the ending year cannot be set.

Number of remaining steps 3. Specify the start date using Y, m and D. *2 The year can be set from the current year to the next two years as shown in the example. If the year is set to "--", the operation performs every year. <Example> If the current year is 2006, the displayed year changes as follows. -- 06 07 08 -- 06 4. Press WRITE . Specify the end date using Y, m and D. *2 If the starting year has been set to "--", the ending year cannot be set. 5. Press WRITE . Set the ON time with h and m. *2 Number of remaining steps 5. Press WRITE . Set the ON time with h and m.

*2 6. Press WRITE . Set the pulse width with PLS . The displayed pulse width changes by pressing this key in the following order. 1 s 2 s ... 59 s 1 m ... 59 m 60 m 1 s 7. Press WRITE to enter the settings. 7. Press WRITE to enter the settings. @@@@*2 Holding down the date- or time-setting keys rapidly advances the value. Pressing decrements the value of the key that was last pressed.

@@@@*2 Holding down the date- or time-setting keys rapidly advances the value. Pressing decrements the value of the key that was last pressed. 6. Press WRITE . Set the OFF time with h and m .

*2 Note: · Yearly programs are added to weekly programs. · All the start/end dates, ON time, and pulse width must be set. The maximum number of yearly pulse output operations that can be set is four for each output circuit. · If multiple settings are required, repeat steps 3 through 7. · All of the yearly programs for the selected circuit (output) can be checked by pressing WRITE in yearly program setting mode.

· The set data will be cleared if the Output Setting Switch is moved between the TIMER and PULSE positions after the data has been set. Note: · Yearly programs are added to weekly programs. · All the start/end dates and ON/OFF times must be set. the maximum number of yearly timer operations that can be set is four for each output circuit. · If multiple settings are required, repeat steps 3 through 7. · All of the yearly programs for the selected circuit (output) can be checked by pressing WRITE in yearly program setting mode. · The set data will be cleared if the Output Setting Switch is moved between the TIMER and PULSE positions after the data has been set. Digital Time Switch H5S 19 Convenient Functions Setting Temporary Holidays (Weekly) Weekly, 2 Circuits Temporary holidays (non-operating days) can be easily set. Because the setting is automatically cleared after the set holiday has passed, temporary holidays are easily set without changing other settings, including those of the Output ON/OFF Switches. Example: Friday and Saturday in the current week are set as holidays (non-operating days).

The Time Switch then operates according to the ordinary (previous) settings from the following week onward. Shaded portion indicates blinking of the indicator. Setting Temporary Holidays (Yearly) Yearly, 2 Circuits Yearly, 4 Circuits Temporary* holidays (non-operating days) can be set simply by specifying dates. Because the setting is automatically cleared after the set holiday has passed, temporary holidays are easily set without changing other settings, including those of the Output ON/OFF Switches. * Annual holidays can also be set. Example: The days from April 29 to May 7 in 2006 are set as holidays (non-operating days). The Time Switch then operates according to the ordinary (previous) settings from the following year onward.



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Shaded portion indicates blinking of the indicator. 1. Press HOLIDAY for 2 s or more in RUN mode.

(The Time Switch enters holiday setting mode.) SUN MON TUE WED THU FRI SAT 1. Press HOLIDAY for 2 s or more in RUN mode. *1 (The Time Switch enters holiday setting mode.) 2.

Specify the start date of holidays using Y, M and D. *2 The year is displayed in the following 2. Turn OFF the bars () at the positions of the days to be set as holidays. Bar ON: Operating day Bar OFF: Holiday SUN MON TUE WED THU FRI SAT 3. Press WRITE to enter the setting.

After "hday" is displayed for approximately 1 s, the Time Switch returns to RUN mode. Note: · Any day in the 7-day period starting from the current day can be set as a holiday. The setting is automatically cleared after the set holiday has passed. · All ON operations are cancelled on the holiday. · The set holidays are valid for all the output circuits. order by pressing Y. (The year can be set from the current year to the next two years.) <Example> If the current year is 2006, the displayed year changes as follows. 060708--06 If the year is set to --, the holiday setting is executed every year. 3.

Press WRITE. In the same manner, specify the end date of holidays using Y, M and D. *2 If the starting year has been set to "--", the ending year cannot be set. 4. Press WRITE to enter the settings. 5. Press HOLIDAY for 2 s or more to return to RUN mode. @@To add another program, press WRITE repeatedly until "--" is displayed. *2 Holding down the date-setting keys rapidly advances the value.

Pressing decrements the value of the key that was last pressed. Note: · Any date between the current date and December 31 in the year after the following year can be specified as a holiday. · The setting is automatically cleared after the set holiday has passed (unless the year is set to --). · Both the start and end dates of holidays must be set. The maximum number of holidays that can be set is 16.

· All ON operations are cancelled on the holiday. · The set holidays are valid for all the output circuits. 20 Digital Time Switch H5S Program Check Function Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits The days and times when output is set to turn ON and OFF over the course of one week can be displayed in the sequence in which the Time Switch is to operate. Shaded portion indicates blinking of the indicator. Day Override Operation Weekly, 2 Circuits Operation for one day can be temporarily (for only one week) executed on another day.

Example: The operation set for Sunday is executed this Saturday. The Time Switch performs the ordinary operation (according to the previous settings) from next Saturday onward. Shaded portion indicates blinking of the indicator. SUN MON TUE WED THU FRI SAT 1. Press TEST for 2 s or more in RUN mode. ("test" flashes and the day and time of the next change in output state are displayed.) 2. Press WRITE. The display shows the time of the next change in output state. Each time WRITE is pressed, the display shows the days and times for one week.

1. Press COPY for 2 s or more in RUN mode. (The Time Switch enters day override operation setting mode.) SUN MON TUE WED THU FRI SAT 2. Turn ON the bar () at the position of the day for which the set operation is to be executed on another day. ("copy" will flash.) SUN MON TUE WED THU FRI SAT Checking the Settings Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits The set times for one day can be checked. Shaded portion indicates blinking of the indicator. 3. Press WRITE to select the day on which the operation is to be executed.

SUN MON TUE WED THU FRI SAT 1. Press one of the Day Keys for 2 s or more in RUN mode to check settings for the day. ("chec" flashes and the time of the first ON time is displayed.) SUN MON TUE WED THU FRI SAT 4. Turn ON the bar () at the position of the day.

More than one day can be selected. SUN MON TUE WED THU FRI SAT 2. Press WRITE. The display shows the time of the next change in output state. 5. Press WRITE to enter the setting. Note: · Any day in the 7-day period starting from the current day can be set as a day on which another day's operation is to be executed. The setting is automatically cleared after the day has passed. · All ON operations are executed on another day. · The day override operation settings are valid for all the output circuits. Manual Summer Time (DST) Adjustment Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits Each time +1h is pressed for 2 s or more in RUN mode, the current time switches between the current time and the current time +1 hour. SUN MON TUE WED THU FRI SAT SUN MON TUE WED THU FRI SAT Note: With Yearly models, the current time can also be automatically switched to DST. For details, refer to functions F6 and F7 on page 25. Digital Time Switch H5S 21 Switching between 12-hour and 24hour display Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits Each time h is pressed for 2 s or more in RUN mode, the current time switches between 12-hour (AM/PM) and 24-hour display. Override and Automatic Return Operation Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits Helps to cope with sudden schedule changes without having to revise the existing program.

This function allows ON/OFF states that were forcibly set using the Output ON/OFF Switch to be maintained until the next ON/OFF time. Turn output OFF while maintaining AUTO operation SUN MON TUE WED THU FRI SAT SUN MON TUE WED THU FRI SAT 1. Change the setting of the Output ON/OFF Switch from AUTO to OFF. 2. Return the Output ON/OFF Switch from OFF to AUTO while pressing WRITE. (Output remains in the OFF state.) 3. The regular operation will be performed from the next ON time. ON AUTO OFF Display Switching Each time m is pressed for 2 s or more in RUN mode, the displayed content switches as shown below. Weekly, 2 Circuits Current time Next operation (Factory setting) Total time hour Total count cnt Turn output ON while maintaining AUTO operation 1.

Change the setting of the Output ON/OFF Switch from AUTO to ON. 2. Return the Output ON/OFF Switch from ON to AUTO with WRITE pressed. (Output remains in the ON state.) 3.

The regular operation will be performed from the next OFF time. ON AUTO OFF (See note.) (See note.) Note: Displays only when Input selection (see function F2 on page 23) is set to totl. Yearly, 2 Circuits Current time Current month and day (Factory setting) Current time Next operation Total time hour Total count cnt (See note.)

(See note.) Note: Displays only when Input selection (see function F2 on page 23) is set to totl. Yearly, 4 Circuits Current time Current month and day (Factory setting) Current time Next operation 22 Digital Time Switch H5S Using Advanced Functions About Advanced Functions Set the advanced functions as required to perform more advanced operation.



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Outlines of the advanced functions are provided on the following pages. Refer to the Instruction Manual enclosed with the H5S for details. Time Counter/Total Counter Display (F2, F3, F4) Yearly, 2 Circuits Yearly, 2 Circuits This function displays the total elapsed time and total input count for an external input. The alarm indicator can also be displayed if an alarm value has been set. Alarm indicator Initial Setting Mode Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits Press TIME ADJ for 3 s or more. Initial setting mode F1:Next operation display Press briefly TIME ADJ . Program setting mode <2-circuit models> P1 P2 RUN or P1 P2 RUN F2:Input selection Press briefly TIME ADJ .

*2-circuit models only Time counter display (Example shows display when the total elapsed time is 30,000 hours.) Total counter display (Example shows display when the total input count is 500,000.) <4-circuit models> PRGM RUN F3:Total time alarm Press briefly TIME ADJ . *Only when "totl" is selected in F2. Note: For display details, refer to Display Switching on page 22. Input selection (F2) *Only when "totl" is selected in F2. F4:Total count alarm Press briefly TIME ADJ . · Set Input selection (F2) in initial setting mode to Time Counter/Total Counter. Shaded portion indicates blinking of the indicator. F5:Date format selection Press briefly TIME ADJ .

*Yearly models only 1. Press h or m to change the display to totl. 2. Press WRITE to enter the setting. F6:Summer time (DST) adjustment *Yearly models only Press briefly TIME ADJ .

F7:Summer time *Yearly models only schedule selection Only when "auto" Press briefly is selected in F6. TIME ADJ . Alarm for time counter (F3) Shaded portion indicates blinking of the indicator. 1. The display will automatically change to the alarm setting screen 2 s after switching to F3.

Press the h or m . h Key: Increments in units of 1,000 h* m Key: Increments in units of 10 h* F8:Season switching *Yearly models only Press briefly TIME ADJ . Press briefly TIME ADJ . F9:Period of season *Yearly models only Only when "on" is selected in F8. Note: The default setting 2. Press WRITE to enter the setting. is 0.0 h (no alarm display). * Pressing decrements the value of the key that was last pressed. Alarm for total counter (F4) Shaded portion indicates blinking of the indicator.

1. The display will automatically change to the alarm setting screen 2 s after switching to F4. Press the h or m . h Key: Increments in units of 10,000* m Key: Increments in units of 100* Note: The default setting 2. Press WRITE to enter the setting. is 0 (no alarm display). * Pressing decrements the value of the key that was last pressed. Digital Time Switch H5S 23 Time Adjustment Input Function (F2) Weekly, 2 Circuits Yearly, 2 Circuits The time can be set to 00 min 00 s at the same time as external input is applied. When using two or more Time Switches, their times can be synchronized. Bank Switching (F2) Weekly, 2 Circuits Two groups (banks) of programs can be registered with the Time Switch.

Banks can be switched by external input. Input selection (F2) · Set Input selection (F2) in initial setting mode to Time Adjustment Input. Shaded portion indicates blinking of the indicator. Bank A Weekly programs 13:00 ON 16:00 OFF Bank B Weekly programs 8:00 ON 10:00 OFF Switching 1. Press h or m to change the display to sync.

2. Press WRITE to enter the setting. Input selection (F2) · Set Input selection (F2) in initial setting mode to Bank Switching. Shaded portion indicates blinking of the indicator. Manual Operation on Recovery from Power Failure (F2) Weekly, 2 Circuits Yearly, 2 Circuits After power is restored to the H5S, it is possible to set the Time Switch to stop turning ON output until external input is applied.

Power supply External input Output 1. Press h or m to change the display to bank. 2. Press WRITE to enter the setting. Switching banks in RUN mode Banks are switched as shown in the following table depending on the external input state. Open-circuited Short-circuited Bank A B Programming a bank ON OFF Flashing ON indicator (in the upper left corner of the screen) Press TIME ADJ in program setting mode to switch banks. Different programs can be set for each bank. Input selection (F2) · Set Input selection (F2) in initial setting mode to Manual Operation on Recovery from Power Failure. Shaded portion indicates blinking of the indicator. Season Switching/Period of Season (F8/F9) Yearly, 2 Circuits Yearly, 4 Circuits Weekly programs can be set to automatically switch throughout the year in response to seasons.

1. Press h or m to change the display to boot. 2. Press WRITE to enter the setting. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec. Jan. Feb.

Spring Summer Autumn Autumn 18:00 ON 21:00 OFF Winter Winter 17:00 ON 21:00 OFF Seasons(*) Spring Setting 17:30 ON 21:00 OFF Summer 19:00 ON 22:00 OFF * Up to four seasons can be set for 4-circuit models, and up to two seasons for 2-circuit models. Season switching (F8) · Turn ON Season switching (F8) in initial setting mode. Shaded portion indicates blinking of the indicator. 1. Press h or m to change the display to on.

2. Press WRITE to enter the setting. Note: The "C" and "D" indications are not displayed in 2-circuit models. 24 Digital Time Switch H5S Period of Season (F9) Shaded portion indicates blinking of the indicator. Date Format Selection (F5) Yearly, 2 Circuits Yearly, 4 Circuits The displayed date format is selectable between "month. day" and "day. month". 1. Press h or m to select the desired season. Parameters mm.

dd : "month. day" 2. Press WRITE to enter the setting. The display then changes to the start period of season input screen. Press M or D to designate the starting dd.nn: "day. month" Note: The inverted characters indicate the default. Setting method Shaded portion indicates blinking of the indicator. date. 3. Press WRITE to enter the setting. The display then changes to the end period of season input screen. Press M or D to designate the ending date. 1. Press h or m to select one of the parameters.

2. Press WRITE to enter the setting. 4. Press WRITE to enter the setting. Note: · The following is set as the default period of season.

A: 1.1 to 12.31 (1/1 to 12/31) B to D: --.-- to --.-- (no setting) *The "C" and "D" indications are not displayed in 2-circuit models. · If overlapping periods are set, the priority becomes A<B<C<D. For example, setting A (1/1 to 12/31) and B (4/1 to 9/30) will result in the following: 1/1 to 3/31: A, 4/1 to 9/30: B, 10/1 to 12/31: A. Summer Time (DST) Adjustment (F6) Yearly, 2 Circuits Yearly, 4 Circuits Manual or automatic summer time adjustment can be selected.



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Parameters off: Manual adjustment Switching seasons One group of programs is automatically switched to another, according to the seasons set in initial setting mode.* * The season switching functions apply only to weekly programs, not yearly programs.

auto: Automatic adjustment (Select summer time schedule in F7.) Note: The inverted characters indicate the default. Setting method Shaded portion indicates blinking of the indicator. Programming a season Press TIME ADJ in program setting mode to switch seasons. Different weekly programs can be set for each season. 1. Press h or m to select one of the parameters. 2. Press WRITE to enter the setting. Next Operation Display (F1) Weekly, 2 Circuits Yearly, 2 Circuits Yearly, 4 Circuits The order of the output channels for which the next operation (the next ON or OFF time) is set can be selected for the sub-display.

@@@@@@Note: 1. Circuits 3 and 4 are not displayed for 2-circuit models. 2. The inverted characters indicate the default. Setting method Shaded portion indicates blinking of the indicator.

1. Select one of the parameters using h or m . 2. Press WRITE to enter the setting. Digital Time Switch H5S 25 Summer Time Schedule Selection (F7) Yearly, 2 Circuits Yearly, 4 Circuits The time and date when the Time Switch automatically switches to and from summer time can be selected with reference to the following regions.

Parameters Regions us Summer time start date and time At 2:00 on the first Sunday in April At 2:00 on the last Sunday in March At 2:00 on the last Sunday in October Summer time end date and time At 2:00 on the last Sunday in October At 3:00 on the last Sunday in October At 3:00 on the last Sunday in March (North America) (Europe) (Australia) eu aust Note: The inverted characters indicate the default. Setting method Shaded portion indicates blinking of the indicator. 1. Press h or m to select one of the parameters. 2. Press WRITE to enter the setting. About the Self Diagnosis Function The following indications will be displayed when an error is generated. Indication e1 e2 Description CPU error Memory error Output OFF OFF Remedy Press "RESET" Press "RESET" 26 Digital Time Switch H5S Digital Time Switch H5S 27 Warranty and Application Considerations Warranty and Limitations of Liability

WARRANTY OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

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Note: This datasheet is provided as a guideline for selecting products. Do not use this document to operate the Unit. 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. L014-E1-07 In the interest of product improvement, specifications are subject to change without notice. OMRON Corporation Industrial Automation Company Control Devices Division H.Q. Analog Controller Division Shiokoji Horikawa, Shimogyo-ku, Kyoto, 600-8530 Japan Tel: (81)75-344-7080/Fax: (81)75-344-7189 Printed in Japan ????-?M(????) (?) .



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