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> STATIC CONTROL DEVICES

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HUMAN MACHINE INTERFACES

ENERGY MANAGEMENT SOLUTIONS

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

For Large Scale System Other Products

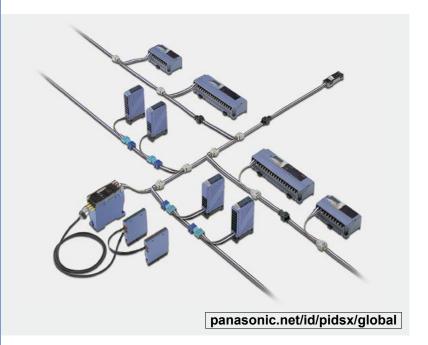
S-LINK V

Flexible Wire-saving System

S-LINK V

Related Information ☐ General terms and conditions......F-3

■UL......P.1600









 Never use this product in a device for personal protection.

 Handle safety related or emergency stop signals without passing them through the S-LINK V system due to fail-safe considerations.

This product is introduced to only limited countries. Please contact our office for details.

Connecting to the future... our next generation wire-saving system

Ideal wire-saving system that meets the strict demands of the FA worksite

automation-unmanned technology, the number of sensors and actuators at work in the FA worksite is increasing evermore.

ON/OFF switching devices such as photoelectric sensors, inductive proximity sensors, electromagnetic valves, and the like, though simplistic in character, represent a huge

Because of the high degree of evolution of recent

the like, though simplistic in character, represent a huge burden on the workplace in the form of electricity layout design and wiring when used in large quantities. Can ever increasing quantities of ON/OFF switching devices be wired in a fast, easy and compact way? Panasonic Industrial Devices SUNX's as the leading FA sensor maker, has the answer the **S-LINK V**.

Computer level network

- Server
- Network computer
- Workstation
- Programmable display, etc.

Controller level network

- PC Robot controller
- Numerical value control PLC, etc.

Device level network

- MFC (mass-flow controller)
- MFM (mass-flow meter)
- Graphic panel Inverter, etc.

Bit (sensor) level network

- Sensor Lamp Relay
- Actuator, etc.

Design a layout with complete control and freedom

With no limit to the number of branches, layout design can be done simply without any wiring constraints thanks to the multiplication of control points (maximum of 512 points and 256 nodes, the largest in its class).

Super adaptability to the worksite

Because there are 3 different communication modes to choose from, you never have to change models even if the worksite or the equipment changes.

Truly dependable features

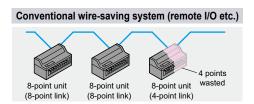
MLINK 1

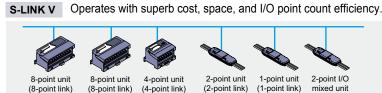
Simple and dependable communication protocols enable fast communication speed. We've also realized an extended communication range of 800 m 2,624 ft maximum (when in C mode).

Multiplication of control points now a reality

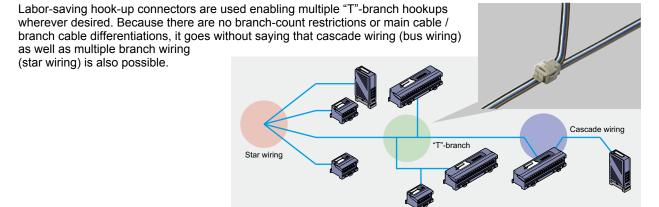
With the maximum I/O control point count is 512.

In addition, there are 256 connection nodes and, because of a variegated 1, 2, 4, 8, 16, and 32 point I/O unit lineup, you can efficiently mount up to 512 control devices to correspond to the quantity of I/O devices desired.





Alleviates the burden laid on engineer for designing and wiring



A bit level network without the need to specifying upper-level networks

The flexible wire-saving system **S-LINK V** can be connected to various foreign or domestic PLC. Also available are a computer control board and a bus direct connection controller and controllers supporting open network and serial communications. Any upper-level network connection is possible without specifying it.



* CC-Link is a registered trademark of Mitsubishi Electric Corporation. DeviceNet is a registered trademark of ODVA (Open DeviceNet Vender Association, Inc.). EtherCAT is a registered trademark of Beckhoff Automation GmbH.

Commercially available cables and connectors can also be used

Available for the **S-LINK V** is an exclusive 4-core flat cable and exclusive hook-up connectors for your labor-saving needs. On the other hand, they are also compatible with commercially available 4-core VCTF cables (without shield) and connectors enabling hookup with the cables you have already in stock. For worksites already wired-up, new wiring work does not have to be performed making these highly efficient devices help greatly reduce material and labor costs.



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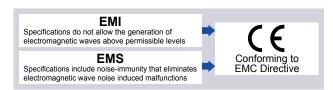
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S-LINK V

All models conform to CE marking (EMC Directive)

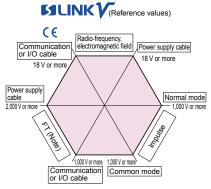
EMI standard EN 61000-6-4 EMS standard EN 61000-6-2

In noisy FA worksites, conforming to CE marking (EMC Directive) is the very least of its operating conditions. All **S-LINK V** units have withstood testing criteria that went above and beyond those reserved for field devices (sensors) that have passed the strictest of CE marking.



Superior noise-immunity performance

We've strengthened the conventional simple waveform noise resistance and enhanced reliability by eliminating the lost flexibility when setting up and the lost freedom and control when designing a layout.

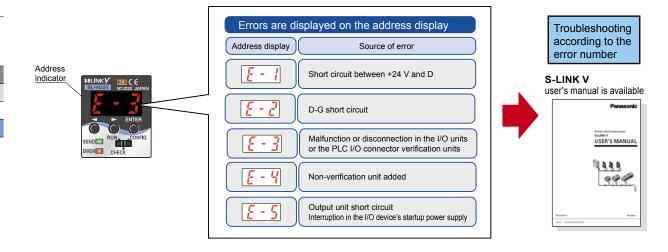


Has ample resistance corresponding to every single item in the EMC noise-immunity test.

Note: FT represents first transient burst noise.

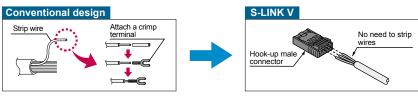
Enhanced maintainability

The system is consistently monitoring communications. In the unlikely event that a problem should arise, it lets the operators know immediately so that appropriate measures can be performed without delay. This feature enables quick and accurate troubleshooting. As error outputs for each abnormality causes can be gained, it is possible to immediately check the cause of problems in case of trouble. Replacement of input / output units due to a fault is easy with connector connection.

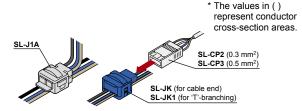


Easy and flawless connections

Every type of hook-up connector is made available enabling a one-touch connection between the **S-LINK V** I/O units and the main cable or I/O devices such as sensors.



Branch cable to main cable connection and S-LINK V I/O unit to main cable connection

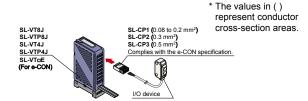


Using the 4-core flat cable, one-touch branching and extensions with hook-up connectors make overwhelming labor-saving possible. Also, in order to enhance the reliability of the connection, exclusive pliers are made available so that anyone can do it with ease.



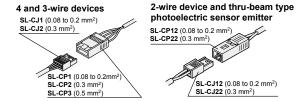
Link from connection device to S-LINK V I/O unit

Using snap connectors renders wiring even for sensors and all types of I/O devices simple and easy.



Connection device extensions

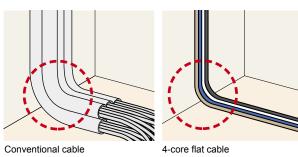
* The values in () represent conductor cross-section areas.



Merit of the 4-core flat cable

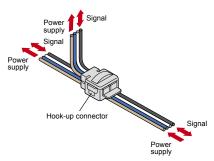
Easy wiring thanks to a flexible cable

The ribbon-shaped 4-core flat cables are light, flexible, don't take too much space and can be used for easy wiring in the narrow spaces inside machines, along extended production lines, etc. They can be manipulated easily for branching, extensions, and even additional wiring.



Wire-saving can be achieved simultaneously

Its exclusive 4-core flat cable makeup consists of 2 signal wires (white / black) and 2 power supply wires (brown / blue). Now, only by wiring with these exclusive 4-core flat cables, power can be supplied to all I/O units scattered throughout the system as well as to every connected device.



3 different selectable communication modes

Operating only the controller, communication modes can be selected for the entire system. Thanks to the three A, B, or C selectable modes, you don't need to reconfigure or modify the controller or the I/O units depending on the communication speed or the size of your system. By selecting a communication mode corresponding to the speed and communication range, the desired communication speed/range environment can also be realized.

Main items Comm. Mode (Note 4)	A-mode	B-mode	C-mode	
Refresh time (Note 1)	1.5 ms or less (for 32 points) 3.3 ms or less (for 128 points) 10.3 ms or less (for 512 points)	6.0 ms or less (for 32 points) 13.1 ms or less (for 128 points) 41.3 ms or less (for 512 points)	24.0 ms or less (for 32 points) 52.3 ms or less (for 128 points) 165.2 ms or less (for 512 points)	
Max. communication range (Note 2)	50 m 164.042 ft	200 m 656.168 ft	800 m 2624.672 ft	
Total cable length	100 m 328.084 ft	400 m 1312.336 ft	1600 m 5249.344 ft	
I/O control points	32 to 512 points (set in 32 point step)(Note 3)			
Number of connected nodes	Maximum 256 nodes			

Notes: 1) This value represents the maximum refresh time.

- 2) The maximum communication range varies depending on the cables' conductor cross-section area as well as the node count.
- 3) 16 units of measure settable by software in the control board (SL-VPCI, SL-VVMES2).
- 4) Communication modes cannot be changed while a communication is in progress.

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S-LINK V

Reduce the wiring of your existing system

The S-LINK V system can be connected to any maker's PLC. It can even be connected to PC expansion slots, open networks, etc. Because it is compatible to any controller and network, the S-LINK V can be introduced to variegated systems as they are already setup. Also, even when the control configuration has been changed (PLC to PC. etc.), conformance can be achieved only by changing the controllers. In this way, the S-LINK V is a system that allows you to utilize to the fullest your worksite's layout investment accumulated until now. Even if changing your present system for the S-LINK V, its features, including a reduced amount of cables, compact units, and 'T'branching, make the addition of I/O devices as well as layout modifications simple and easy. Only by switching the controller's communication mode, you can change the entire system. Purchasing each unit that conforms to specifications or changing the layout itself is absolutely unnecessary.

High reliability for trouble-free operation

Because 4-core flat cables and hookup connectors enable the reduction of wires, the occurrence of faulty wiring or disconnections also goes down. In addition, all **S-LINK V** units conform to CE marking (EMC Directive). This certification ensures high reliability against adverse effects from noise meaning that you can use them with reassurance in the most demanding of worksites.

World-class noise-immunity performance



Specialized knowledge not required

Because communication occurs via hardware, program communication controls are absolutely unnecessary. Even worksites that are first-time users can put this system to work immediately after introduction.

Modular design for easy customization

A control module that can control **S-LINK V** systems with custom boards and I/O modules that can connect I/O devices with custom boards are available so that you can choose the components that best suit your project's specifications.

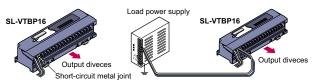


I/O modules SL-VM8 SL-VM16 SL-VMP8 SL-VMP16



Method of supplying power selectable

With the I/O arrayed terminal units (**SL-VTB**_□, **SL-VTBP**_□), the mounting or removal of short brackets enables the collective or separate supply of power from the system (**S-LINK V**) power supply and the load (I/O devices) source to be selected at will.



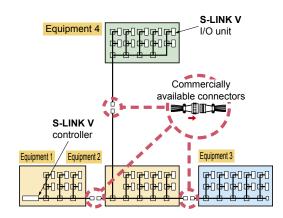
The system (S-LINK V) power supply and load (I/O devices) power supply can be made to supply power collectively. Therefore, electrical wiring used for the load (I/O devices) can be greatly reduced.

The system (S-LINK V) and load (I/O devices) power supplies can be made to supply power separately. This is not a wire-saving of power supply line method, however, the I/O devices only can be stopped without having to halt

Installation and removal of mid-system communication cables possible

In case of large-scale equipment, many times we construct each unit right on site in manufacturing facilities or in subcontract factories. Because the **S-LINK V** enables the easy removal of main or branch cables even in midsystem with commercially available connectors and intermediate terminal blocks, when constructing new units, if the electric wiring is already setup, assembly can be done just by installing those units at the time of delivery and connecting the **S-LINK V** wiring.

Additionally, the ability to use the handy monitor **SL-VHM1** to check electrical wiring on a unit-by-unit basis improves productivity while facilitating the clear division of responsibility with subcontract factories.



Support for fast system launch

The **SL-VHM1** can operate and monitor all units that are connected to the system, putting efficient debugging (checking) of I/O devices installed in remote locations at your fingertips.



Greatly reducing labor when installing

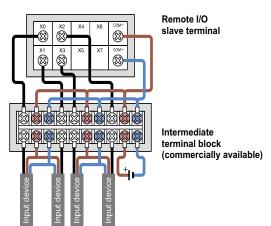
Labor saving is realized thanks to the 4-core flat cable and hook-up connectors. Because the work of peeling cable coverings, mounting crimp terminals, tightening screws, wiring cable ducts, etc. is rendered unnecessary, installation time is minimized. This enables the leadtime to be shortened resulting in more equipment completed in less time. In addition, the overall stress level of onsite personnel is relieved and morale goes up. Surplus auxiliary materials (cables, intermediate terminal blocks, etc.) are unnecessary making for reduced total cost. Also, using connectors to add on or change sensors and units is made easy. No wastes from peeled off cable ends meaning you are left with a wire-saving, environmentally friendly system.



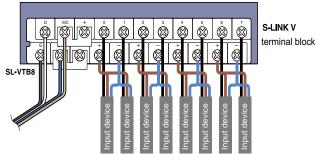
Worksite installation friendly and easily connectable terminal blocks

Ample +COM and -COM terminals are imbedded in the I/O terminals rendering intermediate terminal blocks unnecessary.

Common remote I/O



I/O terminal block diagram (Pictured: 8-channel input terminal)

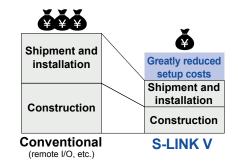


• The unit provides a large number of +COM and -COM terminals.

- The connection of 2 or 3-wire sensors was not envisioned with a low amount of COM terminals
 - There are few makers that provide +COM terminals or make 3-wire sensor connections possible.
- The present situation among current users is to prepare separate connecting terminal blocks and reconnect anew the remote I/O terminals. It is neither wire-saving nor labor-saving.

Less time required means lower construction costs

In recent years, many production processes have been moved overseas and cases where equipment had to be set up in those new foreign worksites have increased dramatically. It goes without saying that the period of time needed for setting up the worksite equals the period personnel must remain in those countries. A long installation period means an overextended stay bringing up overall costs. The **S-LINK V** promises a short installation time period making for great reductions in labor costs for electricians.



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Comparison with conventional wiring

Setting conditions

- Estimated workload for wiring a control box to 3 processing machines.
- The control box is 10 m 32.808 ft, 15 m 49.213 ft, and 20 m 65.617 ft away from the machines respectively.
- Each machine has 128 I/O points for a total of 384 points.

Estimate results

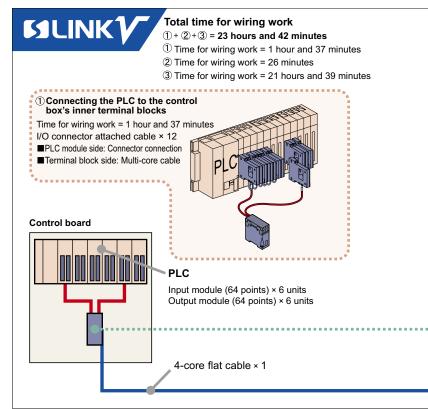
The S-LINK V system was completely setup in 161 hours and 18 minutes (about 20 days*).

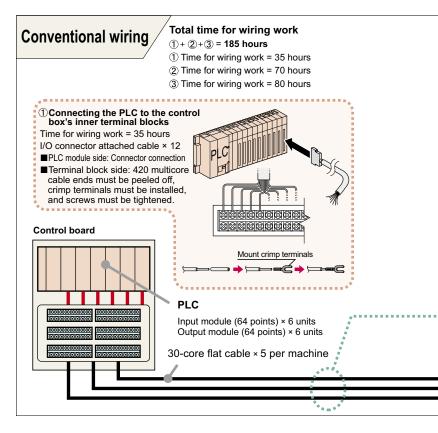
* 8 hours/day

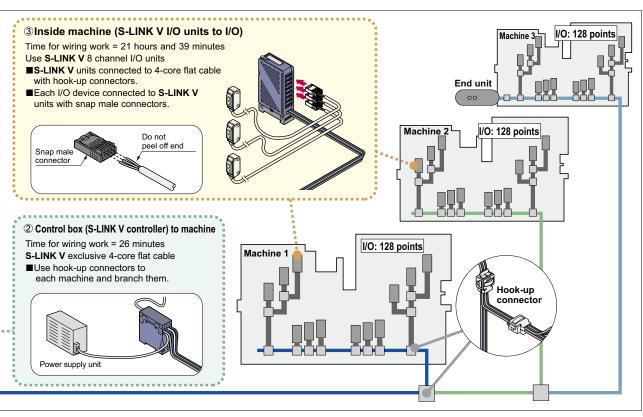
Time needed for wiring work

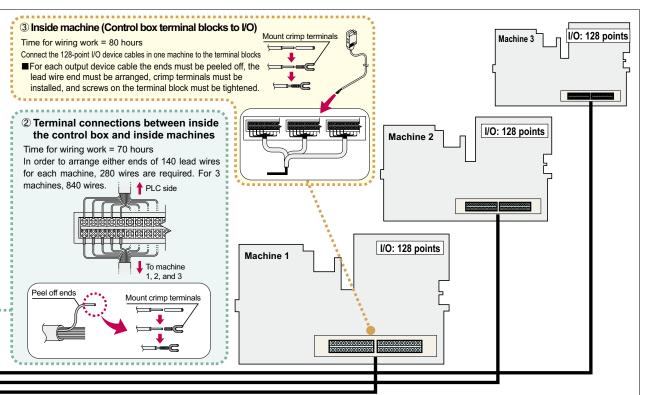
 \bigcirc If using **S-LINK V**: 23 hours 42 minutes

If using conventional wiring: 185 hours









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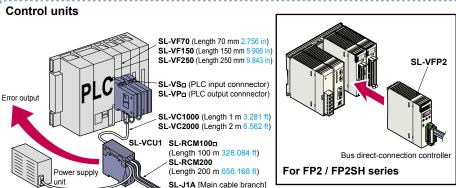
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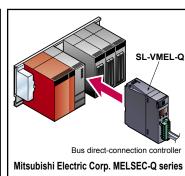
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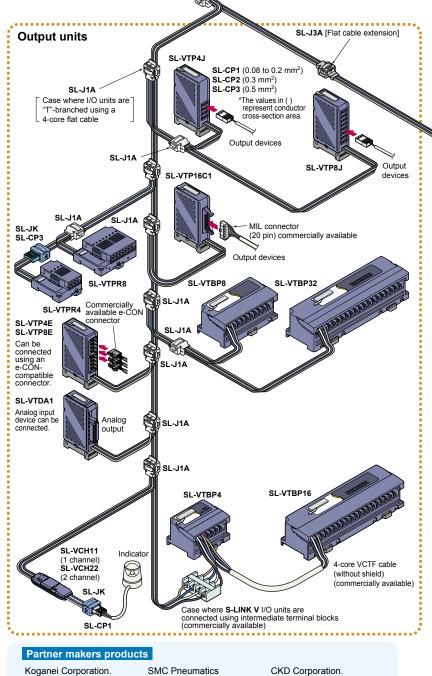
S-LINK V

Manifold electromagnetic valves

SYSTEM LAYOUT

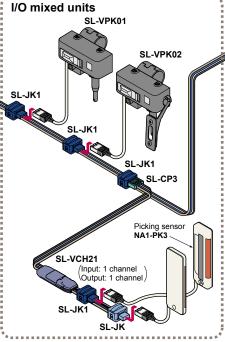


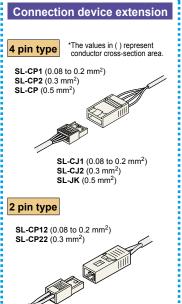




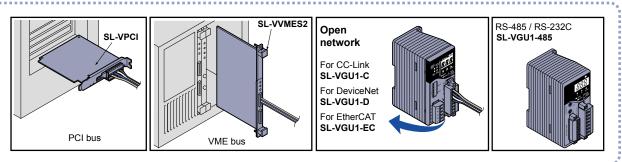
Manifold electromagnetic valves

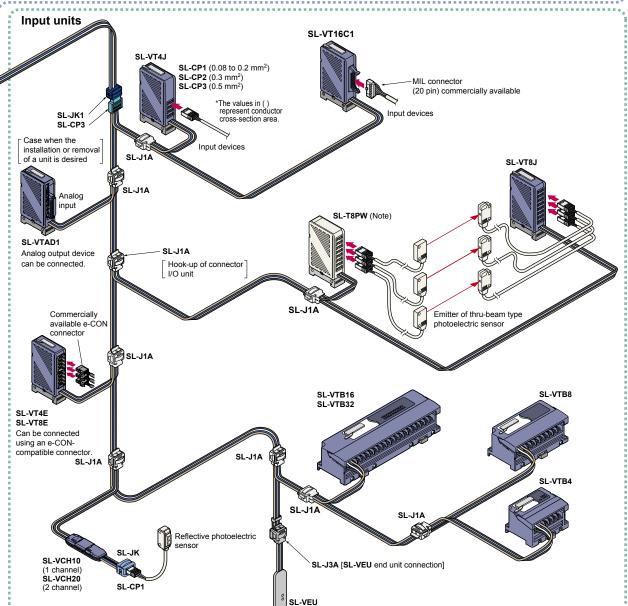
Manifold electromagnetic valves



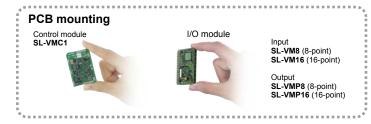


SL-CJ12 (0.08 to 0.2 mm²) SL-CJ22 (0.3 mm²)





Note: Because the exclusive 4-core flat cable allows a +24 V-0 V DC power supply, thru-beam type sensor emitters can be connected easily with low installation work.





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APPLICATIONS

Semiconductor manufacturing equipment



Manufacturers are under even greater pressure to save space in clean rooms to prepare for the dawning of the 300 mm 11. 811 in wafer era. Thanks in part to their compact design, S-LINK V I/O units can be used to implement wire-saving systems across the board, including for power supply lines helping to reduce your equipment's footprint (installation area).

Automated assembly equipment



Equipment used to manufacture devices such as hard disks, DVDs, and mobile phones must accommodate quick progression from generation to generation as well as rapid growth in demand. Because the **S-LINK V** wire-saving system delivers a high degree of design freedom in every aspect of its operation, it can be used to save man-hours not only in manufacturing, but also in development and design work.

Distribution and conveyance equipment



Since it supports total wiring lengths of up to 1,600 m 5249 344 ft, S-LINK V can be used on long lines such as distribution lines. In addition, all models are CE Mark compliant, ensuring their ability to deliver the level of noise resistance you demand in a high-reliability wire-saving system.

ORDER GUIDE

Control units

Designation	Appearance (Note 1)	Model No.	Description
S-LINK V controller	(e	SL-VCU1	It can control the signal transmission of the complete system. It also monitors the signal transmission line and specifies the addresses of the disconnected devices if the breaks, etc.
S-LINK V control board for PCI bus	(E	SL-VPCI (Note 2)	It can be fitted into the expansion slot (PCI bus) of a personal computer to control the S-LINK V system.
S-LINK V control board for VME bus	€ C€	SL-VVMES2	It can be directly connected to the VME bus line to control the S-LINK V system. It provides two S-LINK V ports, each allowing 512 I/O points maximum, so that a total of 1,024 I/O points can be controlled.
	CE.	SL-VGU1-C	S-LINK V gateway controller for connection open network CC-Link, promoted by CC-Link Association.
S-LINK V gateway controller for open network	(E	SL-VGU1-D	S-LINK V gateway controller for connection open network DeviceNet, promoted by ODVA.
	(E	SL-VGU1-EC	S-LINK V gateway controller complied with the high speed communication system EtherCAT
S-LINK V gateway controller for RS-485/ RS-232C	(E	SL-VGU1-485	S-LINK V gateway controller that supports both RS-485 and RS-232C serial communications.
PLC bus direct connection controller for FP2 / FP2SH series	C E	SL-VFP2	It can be directly connected to the FP2 / FP2SH series main (CPU) motherboard or expansion motherboard to control an S-LINK V system.
Mitsubishi Electric Corp. MELSEC-Q series bus direct hook-up controller	(€	SL-VMEL-Q	Directly connects with Mitsubishi Electric Corp.'s MELSEC-Q series base unit to control the S-LINK V system.

Notes: 1) Components with " (€" mark conform to the CE marking EMC Directive.

²⁾ Driver software not included. Please download driver software from our website.

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PLC related units

			Mode	el No.		Descrip	otion	
Designation	Appearance	(Note 1)	For input	For output	Manufacturer	PLC (Note 2)	PLC input module (Note 3)	PLC output module (Note 3)
					Panasonic Industrial Devices	FPΣ (Excluding the FPG-C32T)	FPG-XY64D2T (X side)	FPG-XY64D2T (Y side)
			SL-VS1	SL-VP1	SUNX Co., Ltd.	FP2	FP2-X32D2	FP2-Y32T
					Toshiba Machine Co., Ltd.	TC200	TC64DI	TC64DON
						NS series	NS-X64-1 NS-XY64-1(X side)	NS-Y64-T1 NS-XY64-1(Y side)
						F55	NV1X3204 NV1X3204-W NV1X3206	NV1Y32T05P1
			SL-VS2	SL-VP2	Fuji Electric Co., Ltd.	F70	NC1X3204 NC1X3204-3 NC1X3206 NC1X6404 NC1X6406 NC1W6406T(X side)	NC1Y32T05P1 NC1Y64T05P1-1 NC1W6406T(Y side)
		FUJITSU COMPONENT				F80H, F120H F120S F140S F15XS	FTU125A FTU126A FTU127C FTU612A(X side)	FTU222A FTU227C FTU612A(Y side)
		connector specs. MIL connector specs.				AnS	A1SX4, A1SX41-S1 A1SX42, A1SX42-S1 A1SH42(X side) A1SH42-S1(X side)	A1SY41 A1SY42 A1SH42(Y side) A1SH42-S1(Y side)
				SL-VP3	Mitsubishi Electric Corp.	AnN, AnA, AnU QnA, QnAs	AX42 AH42(X side)	AY42 AH42(Y side)
	PLC I/O connectors (Note 4)	PLC input connectors	SL-VS3			Q	QX41, QX42 QH42P(X side)	QY41P, QY42P QH42P(Y side)
	PLC input connector PLC output	PLC input connectors PLC output connectors (same shape) (Note 6) The listed PLC I/O				A2CJ	AJ35TC1-32D	AJ35TC1-32T
PLC input					Fuji Electric Co., Ltd.	SX series	NP1X3206-W NP1X6406-W	NP1Y32T09P1 NP1Y64T09P1
connector PLC output		modules (NPN only) allow the mating PLC I/O connector to be plugged on them for signal transmission between the PLC and the S-LINK V controller. The PLC I/O connector converts I/O data from serial to parallel, and vice versa. I/O points: 32 points per connector	SL-VS4	SL-VP4	Sharp Manufacturing	JW20 JW20H JW30H	JW-234N JW-264N	JW-232S JW-262S
connector	Cascade cable Connector		JL-V34	02 11 1	Systems Corp.	JW50H	JW-34NC JW-64NC	JW-32SC JW-62SC
	Control cap (Note 5)		SL-VS5	SL-VS5 SL-VP5	Omron Corp.	CJ1 series	CJ1W-ID231 CJ1W-ID261 CJ1W-MD261(X side)	CJ1W-OD231 CJ1W-OD261 CJ1W-MD261(Y side)
	If connecting 9 PLC connectors or more to the S-LINK V controller, use 2					CS1	CS1W-ID231 CS1W-ID261 CS1W-MD261(X side)	CS1W-OD231 CS1W-OD261 CS1W-MD261(Y side)
	control cables and separate them into 2 stems for a					CVM1, CV, C500, C1000HC2000H	C500-ID219	C500-OD213
	parallel connection.					C200H series	C200H-ID216 C200H-ID217	C200H-OD218 C200H-OD219
						CQM1	CQM1-ID217	CQM1-OD213
					Yokogawa	FA500	XD64-6N WD64-6N(X side)	YD64-1A WD64-6N(Y side)
					Electric Corp.	FA-M3 FA-M3R	F3XD32-3N	
					Hitachi Industrial Equipment Systems Co., Ltd.	EH-150 series	EH-XD32	EH-YT32
					Toshiba Corp.	Т3	DI-335, DI-335H	DO-335
					Yasukawa Electric Corp.	GL20,GL40S GL60S,GL60H GL70H		B2604
			SL-VS6	SL-VP6	Hitachi Industrial Equipment Systems Co., Ltd.	H series	XDC24D2H XDC24D3H	YTR24DH YTR24D3H
			SL-VS7		Yasukawa Electric Corp.	GL20, GL40S GL60S, GL60H GL70H	B2605	
			SL-VS8	SL-VP8	Rockwell Automation (Allen-Bradley)	SLC500	1746-IV32	1746-OV32
Cascade			SL-V		Length: 70 mm 2		It links two PI	LC I/O
cable		(Note 7)	SL-V		Length: 150 mm 5.906 in Length: 250 mm 9.843 in		connectors	
Control			SL-V	C1000	Length: 1 m 3.28	31 ft	It links the S- controller and	
cable		(Note 7)		C2000	Length: 2 m 6.56	62 ft	PLC I/O conr	

Notes: 1) Components with " ("mark conform to the CE marking EMC Directive.

- 2) For the production status of conforming PLCs, please contact the manufacturer.
- 3) X side and Y side indicate the input and the output connectors, respectively, of the compound input/output module.
- 4) PLC I/O connectors are connectable to **S-LINK V** controller **SL-VCU1** only.
- 5) The connector cap is attached with the PLC I/O connector.
- 6) The PLC I/O connectors use FUJITSU COMPONENT connectors. However, SL-VS1, SL-VS6, SL-VP1, SL-VP6 and SL-VP8 connectors use MIL connectors.
- 7) The cascade cable and the control cable do not conform to CE marking.

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I/O units

	Designation	Appearance (Note 1)	Model No.		Description
1 c	hannel input unit	((SL-VCH10	1 NPN input	
2 c	hannel input unit	(E	SL-VCH20	2 NPN inputs	
2 ch	annel I/O mixed unit	✓ (€	SL-VCH21	1 NPN input and 1 NPN output	Scattered low count I/O units can be connected easily by 1 channel increments. The connection with the I/O units can be done using hook-up connectors greatly reducing wiring work.
1 c	hannel output unit	✓ (€	SL-VCH11	1 NPN output	
2 c	hannel output unit	(€	SL-VCH22	2 NPN outputs	
Relay output terminal unit	4 relay output terminal	(€	SL-VTPR4	4 relay outputs	A 3A maximum high capacity load can be connected.
Relay output	8 relay output terminal	(€	SL-VTPR8	8 relay outputs	The relays can be replaced easily one channel at a time.
	4 channel snap-connector input unit		SL-VT4J	4 NPN inputs	
±	8 channel snap-connector input unit		SL-VT8J	8 NPN inputs	4, 8 input or 4, 8 output devices are connectable with snap male connectors.
VO unit	4 channel snap-connector output unit		SL-VTP4J	4 NPN outputs	The output unit is incorporated with an output signal hold function, which retains the output state just prior to an error on the circul transpiction line.
Connector I/O	8 channel snap-connector output unit	SL-VTP8J	8 NPN outputs	the signal transmission line.	
Conn	16 channel MIL connector input unit		SL-VT16C1	16 NPN inputs	Since connection can be made with an MIL connector, 16 input
	16 channel MIL connector output unit	(6	SL-VTP16C1	16 NPN outputs	 or 16 output devices can be connected to this slim I/O unit. The output unit is incorporated with an output signal hold function, which retains the output state just prior to an error on the signal transmission line.
0 units	4 channel snap-connector input unit		SL-VT4E	4 NPN inputs	4, 8 input or 4, 8 output devices are connectable with an
ON-compatible connector I/O units	8 channel snap-connector input unit		SL-VT8E	8 NPN inputs	e-CON-compatible connector. The output unit is incorporated with an output signal hold
npatible co	4 channel snap-connector output unit		SL-VTP4E	4 NPN outputs	function, which retains the output state just prior to an error on the signal transmission line.
e-CON-cor	8 channel	CE	SL-VTP8E	8 NPN outputs	*Requires separate purchase of a commercially available connector that complies with the e-CON standard.
a)	snap-connector output unit		SL-VTB4	4 NPN inputs	
_			SL-VTB8	8 NPN inputs	They are screw-on terminal units to which 4, 8, 16 or 32 input devices are connectable. Since power supply terminals have
arrayed terminal unit	Input terminal	and the same of th	SL-VTB16	16 NPN inputs	been provided for two input channel, neat wiring is possible. (Note 2)
ermin		The same of the sa	SL-VTB32	32 NPN inputs	(133.2)
ayed t		The state of the s	SL-VTBP4	4 NPN outputs	
Q Output terminal	The state of the s	SL-VTBP8	8 NPN outputs	They are screw-on terminal units to which 4, 8, 16 or 32 output devices are connectable. The output unit is incorporated with	
	THE PROPERTY OF THE PARTY OF TH	SL-VTBP16	16 NPN outputs	an output signal hold function, which retains the output state just prior to an error on the signal transmission line.	
		C€	SL-VTBP32	32 NPN outputs	
Ana	alog input unit	1 (6	SL-VTAD1	1 analog input	It can perform A/D conversion of an analog signal at the location of measurement. Since the length of analog wiring is minimized, variations in measurement data due to phenomena such as voltage dips can be reduced.
Ana	alog output unit	1 (6	SL-VTDA1	1 analog output	It can perform D/A conversion of digital signals. By combining electro-pneumatic regulator control and motor control capabilities in a single unit, it allows wiring to be reduced.

Notes: 1) Components with " (imark conform to the CE marking EMC Directive. 2) 4, 8, and 16-point unit

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I/O units

Designation	Appearance (Note)	Model No.	Description
Picking switch	**	SL-VPK01	This picking switch can be installed on pipes. Its compact size (just 90 mm 3.543 in wide) allows it to be installed on small-sized shelving used with compact parts, while its cable with integrated connector and magnetic (Hall element) contactless switch simplify installation and provide freedom in terms of switch operation (back and forth, left and right, and vertically).
For shutter	•	SL-VPK02	The address configuration remote control can be used to set and check the unit's address as well as to select its lamp color [green (default), red, blue, two-stage indication]. Up to 256 units can be connected to a single S-LINK V control unit. *Use requires address configuration remote controller SL-VAR1 . *For SL-VPK02 , The dual-end shutter support fixture MS-PK02-W is available (Optional).
Address setting remote controller		SL-VAR1	This address setting remote controller is designed for use with the picking switch SL-VPK0 _□ , which simplifies setting and checking of the switch's address and selection of its lamp color. A single address setting remote control can be used with multiple SL-VPK0 _□ switches.

Note: Components with " (mark conform to the CE marking EMC Directive.

PCB mounting module

Designation	Appearance (Note)	Model No.	Description	
Control module	(E	SL-VMC1	Your in-stock original board can be used as a substitute for the S-LINK V controller.	
		SL-VM8	8 NPN inputs	
I/O module	110	SL-VM16	16 NPN inputs	Your in-stock original board can be used as a substitute for the S-LINK V I/O unit. Select the most suitable board corresponding
I/O module	100000000000000000000000000000000000000	SL-VMP8	8 NPN outputs	with the quantity of I/O devices to be connected.
	CE	SL-VMP16	16 NPN outputs	

Note: Components with " (mark conform to the CE marking EMC Directive.

Connectors

Designation	Appearance (Note)	Model No.	Description		
Hook-up connector		SL-J1A (Gray) 10 pcs. per set	It creates a "T"-branch connection between two S-LINK V exclusive flat cables. For 0.5 mm² flat cable to 0.5 mm² flat cable connection Compatible crimping pliers: SL-JPS		
Cable extension hook-up connector		SL-J3A (Black) 10 pcs. per set	It can extend the S-LINK V exclusive flat cable. For 0.5 mm² flat cable to 0.5 mm² flat cable connection Compatible crimping pliers: SL-JPS		
Cable end socket-branch hook-up connector		SL-JK (Light blue) 10 pcs. per set	Hook-up connector (SL-CP _□) for linking the ends of exclusive flat cables (0.5 mm², 4-core) to I/O devices using snap male connectors Compatible crimping pliers: SL-JPS		
"T"-branch hook-up connector		SL-JK1 (Blue) 10 pcs. per set	Hook-up connector (SL-CP□) for linking mid-system exclusive flat cables (0.5 mm², 4-core) to I/O devices using snap male connectors Compatible crimping pliers: SL-JPS		
4-pin type snap female		SL-CJ1 (White) 10 pcs. per set	For 0.08 to 0.2 mm² (Conductor cross-section area) Wire dia.: Ø0.7 to Ø1.2 mm Ø0.028 to Ø0.047 in	Snap female connector to connect with the snap male connector	
connector		SL-CJ2 (Black) 10 pcs. per set	For 0.3 mm² (Conductor cross-section area) Wire dia.: ø1.1 to ø1.6 mm ø0.043 to ø0.063 in	SL-CP1 and SL-CP2 Compatible crimping pliers: SL-JPC	
		SL-CP1 (White) 10 pcs. per set	For 0.08 to 0.2 mm² (Conductor cross-section area) Wire dia.: ø0.7 to ø1.2 mm ø0.028 to ø0.047 in	Snap male connector to link I/O devices with connector I/O units	
4-pin type snap male connector		SL-CP2 (Black) 10 pcs. per set	For 0.3 mm² (Conductor cross-section area) Wire dia.: ø1.1 to ø1.6 mm ø0.043 to ø0.063 in	SL-VT4J / SL-VT8J and SL-VTP4J / SL-VTP8J and to link the S-LINK V I/O units to hook-up connectors SL-JK / SL-JK1.	
		SL-CP3 (Greenish blue) 10 pcs. per set	For 0.5 mm² (Conductor cross-section area) Wire dia.: ø1.7 to ø2.5 mm ø0.067 to ø0.098 in	Compatible crimping pliers: SL-JPC (for SL-CP1 / SL-CP2), SL-JPE (for SL-CP3)	

Note: For UL compatibility, please contact our office.

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End unit

Designation	Appearance (Note)	Model No.	Description	
End unit	(E	SL-VEU	Connect to the end of the main cable. At least one end unit is required for each system. (For more information, refer to the user's manual.) Use the included MS-CH DIN rail mounting bracket for DIN rail installation. The DIN rail mounting bracket can be affixed with screws.	
Note: Components with " C €" mark conform to the CE marking EMC Directive.				

Accessory

• NPS-CV |Protection cover for SL-VCU1

• MS-SL-2 Connector I/O unit mounting bracket





Connector I/O unit mounting bracket / 8-branch connector tap mounting bracket

• MS-DIN-3



Option

Designation	Model No.	Description
Connector I/O unit mounting bracket / 8-branch connector tap mounting bracket	MS-DIN-3	It is a DIN rail mounting bracket which can be fitted on the mounting base of SL-VT□J, SL-VT□E, SL-VTAD1 and SL-T8PW

Others

Designation	Appearance (Note 1)	Model No.		Descriptio	n
Handy monitor	CE	SL-VHM1		operate all units connected to the debugging I/O units (I/O check)	S-LINK V system.
8-branch connector tap		SL-T8PW		DC power supply can be providue sensor emitters can be easily of	ed by the dedicated 4-core flat cable, up connected.
2-pin type snap female	(Note 2)	SL-CJ12 (White) 10 pcs. per set	For 0.08 to 0.2 mm (Conductor cross- Wire dia.: ø0.7 to ø		
connector	(Note 2)	SL-CJ22 (Black) 10 pcs. per set		ductor cross-section area) 11.6 mm Ø0.043 to Ø0.063 in	2-wire type device optimal for cable
2-pin type snap	(Note 2)	SL-CP12 (White) 10 pcs. per set	For 0.08 to 0.2 mm ² (Conductor cross-section area) Wire dia.: Ø0.7 to Ø1.2 mm Ø0.028 to Ø0.047 in		relays to the thru-beam type beam sensor emitters
male connector	(Note 2)	SL-CP22 (Black) 10 pcs. per set		ductor cross-section area) 1.6 mm Ø0.043 to Ø0.063 in	
		SL-RCM100		D line: White: ①	
		SL-RCM100-PK	Length: 100 m 328.084 ft	D line: White with pink stripe: ②	S-LINK V exclusive flat cable (4-core
Exclusive flat cable	15 2	SL-RCM100-GN		D line: White with green stripe: ③	Conductor cross-section area: 0.5 mm ² Outer diameter: ø2.5 mm × 4
(4-core)	3	SL-RCM100-GY		D line: White with gray stripe: 4	Ø0.098 in × 4
	(Note 2)	SL-RCM200	Length: 200 m 656.168 ft	D line: White: ⑤	
Exclusive cabtyre		SL-CBM100	Leng	th: 100 m 328.084 ft	S-LINK V exclusive cabtyre cable (4-core)
cable (4-core)		SL-CBM200	Length: 200 m 656.168 ft		Conductor cross-section area: 0.5 mm ² Outer diameter: ø7.4 mm ø0.291 in (Hook-up connectors cannot be used)
Exclusive pliers		SL-JPS	Hook-up connector (SL-J □) can be connected in on		ne grip.
SL-CP3 exclusive pliers		SL-JPE	4-pin type snap male connector (SL-CP3) can be connected in one grip.		onnected in one grip.
Snap male / female connector exclusive pliers		SL-JPC		nector (SL-CJ□) and snap male c can be connected in one grip.	onnector (SL-CP1/CP2 and

Notes: 1) Components with " (image mark conform to the CE marking EMC Directive.

²⁾ For UL compatibility, please contact our office.

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Others

Designation	Appearance	Model No.	Description
Address label		SL-VMA1-SET 2 pcs. (1 circuit) × 4 colors	Set of address stickers in 4 colors (white, pink, green, and gray). Use with multiple circuits for easy visual identification.
DIN rail mounting bracket for SL-VCH		MS-CH×10 10 pcs. per set	Mounting bracket enabling the SL-VCH series I/O units to be mounted onto a 35 mm 1.378 in width DIN rail. They can also be affixed with screws. (When affixing with screws, arrange two M4 pan-head screws separately.)
I/O unit holder for SL-VCH□		MS-SLH 5 pcs. per set	It is used to mount the SL-VCH series. (Please arrange two M4 pan-head screws separately.)

PRECAUTIONS FOR PROPER USE

- Never use this product in a device for personal protection.
- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.
- Handle safety related or emergency stop signals without passing them through the **S-LINK V** system due to fail-safe considerations.
- Before touching this product, remove any electrostatic charge that may be present on your body. There is a danger of this product getting damaged due to the electrostatic charge.

The flexible wire-saving system **S-LINK V** are not mutually interchangeable with the sensor & wire-saving link system **S-LINK** and cannot be mixed or matched. Please exercise caution.

Nevertheless, any of the exclusive 4-core flat cable, connectors, hook-up pliers, or **SL-T8PW** 8-branch connector taps can be used.

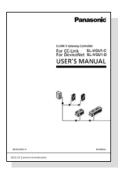
Please make use of this system's 'User's Manual'

For more detailed information pertaining to the flexible wire-saving system **SILINKV**, please refer to its detailed "User's Manual".



S-LINK V User's Manual

This manual provides information about **S-LINK V** design and installation.



S-LINK V Gateway Controller User's Manual

This manual provides information about open networks and **S-LINK V** design and installation.

Information about S-LINK V partner makers

Refer directly to our partner makers for more details pertaining to the **S-LINK V** compatible devices introduced here. [**S-LINK V** direct hook-up Manifold electromagnetic valves]

Koganei Corporation SMC Pneumatics CKD Corporation

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