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Find the *OMRON / Yaskawa SGDH-30DE-OY* at our website: *Click HERE*

Cable Specifications and Peripheral Devices

Ratings and specifications for peripheral devices, as well as cable specifications for servo amplifiers are summarized in the tables below.

⚠ CAUTION

Wiring Precautions

- **Do not bundle or run power and signal lines together in the same duct.**
  Keep power and signal lines at least 11.81" (30cm) apart.
- **Use twisted pair or shielded multi-core twisted pair wires for signal and encoder (PG) feedback lines.**
- **The maximum lengths for signal lines are as follows:**
  - Maximum of 9.84ft (300cm) for reference input lines.
  - Maximum of 65.6ft (20m) for PG feedback lines.
  - Use a cable with 164 ft (50m) specifications for distances over 65.6ft (20m).

Cable Specifications

The following table provides wire size specifications:

External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]				
			A3AE	A5AE	01AE	02AE	04AE
for 200V	Main circuit power input terminals	L1, L2 (Single Phase)	16 AWG [HIV 0.002 (1.25)]				14 AWG [0.003 (2.0)]
	Servomotor connection terminals	U, V, W	16 AWG [HIV 0.002 (1.25)]				
	Control power supply terminals	L1C, L2C					
	Control I\O signal connector	CN1	Twisted pair or shielded twisted pair wires				
	PG signal connector	CN2	Core wire at least 28 AWG [0.0002 (0.12)], tinned, annealed copper twisted wires Finished cable dimensions: maximum Φ0.63in (16mm) for CN1 and Φ0.27in (6.8mm) for CN2.				
	Ground terminal	⏚	14 AWG [HIV 0.003 (2.0)]				

External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]	
			08AE-S	15AE-S
for 200V	Main circuit power input terminals	L1, L2 (Single Phase)	14 AWG [0.003 (2.0)]	12 AWG [0.0054 (3.5)]
	Servomotor connection terminals	U, V, W		
	Control power supply terminals	L1C, L2C	16 AWG [HIV 0.002 (1.25)]	14 AWG [0.003 (2.0)]
	Control I\O signal connector	CN1	Twisted pair or shielded twisted pair wires	
	PG signal connector	CN2	Core wire at least 28 AWG [0.0002 (0.12)], tinned, annealed copper twisted wires Finished cable dimensions: maximum Φ0.63in (16mm) for CN1 and Φ0.27in (6.8mm) for CN2.	
	Ground terminal	⏚	14 AWG [HIV 0.003 (2.0)]	

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Cable Specifications (cont'd)

External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]				
			05AE	08AE	10AE	15AE	20AE
for 200V	Main circuit power input terminals	L1, L2, L3 (Three-phase)	14 AWG [HIV 0.003 (2.0)]				12 AWG [HIV 0.005 (3.5)]
	Servomotor connection terminals	U, V, W					
	Control power supply terminals	L1C, L2C	16 AWG [HIV 0.002 (1.25)]				
	Control I\O signal connector	CN1	Twisted pair or shielded twisted pair wires Core wire at least 28 AWG [0.0002 (0.12)], tinned, annealed copper twisted wires. See page 4 for details. Finished cable dimensions: maximum Φ0.63in (16mm) for CN1 and Φ0.27in (6.8mm) for CN2.				
	PG signal connector	CN2					
	Ground terminal	⏚	14 AWG [HIV 0.003 (2.0)]				

External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]			
			30AE	50AE	60AE	75AE
for 200V	Main circuit power input terminals	L1, L2, L3 (Three-phase)	12 AWG [HIV 0.005 (3.5)]	10 AWG [HIV 0.009 (5.5)]	8 AWG [HIV 0.012 (8)]	6 AWG [HIV 0.022 (14)]
	Servomotor connection terminals	U, V, W	10 AWG [HIV 0.009 (5.5)]	8 AWG [HIV 0.012 (8)]	6 AWG [HIV 0.022 (14)]	
	Control power supply terminals	L1C, L2C	16 AWG [HIV 0.002 (1.25)]			
	Control I\O signal connector	CN1	Twisted pair or shielded twisted pair wires Core wire at least 28 AWG [0.0002 (0.12)] tinned, annealed copper twisted wires. See page 4 for details. Finished cable dimensions: maximum Φ0.63in (16mm) for CN1 and Φ0.27in (6.8mm) for CN2.			
	PG signal connector	CN2				
	Ground terminal	⏚	14 AWG [HIV 0.003 (2.0)]			

External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]	
			1AAE	1EAE
for 200V	Main circuit power input terminals	L1, L2, L3 (Three-phase)	4 AWG. [HIV 0.022 (14)]	
	Servomotor connection terminals	U, V, W		
	Control power supply terminals	L1C, L2C	16 AWG [HIV 0.002 (1.25)]	
	Control I\O signal connector	CN1	Twisted pair or shielded twisted pair wires Core wire at least 28 AWG [0.0002 (0.12)], tinned, annealed copper twisted wires. See page 4 for details. Finished cable dimensions: maximum Φ0.63in (16mm) for CN1 and Φ0.27in (6.8mm) for CN2.	
	PG signal connector	CN2		
	Ground terminal	⏚	14 AWG [HIV 0.003 (2.0)]	

Notes:
1. Wire sizes were selected for three cables per bundle at 40°C ambient temperature with the rated current.
2. Use cables with a minimum withstand voltage of 600V for main circuits.
3. If cables are bundled in PVC or metal ducts, consider the reduction ratio of the allowable current.
4. Use heat-resistant cable under high ambient or panel temperatures where normal vinyl cable will rapidly deteriorate.

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Cable Specifications (cont'd)

External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]			
			A3BE	A5BE	01BE	02BE
for 100V	Main circuit power input terminals	L1, L2 (Single Phase)	16 AWG [HIV 0.002 (1.25)]			14 AWG [0.003 (2.0)]
	Servomotor connection terminals	U, V, W	16 AWG [HIV 0.002 (1.25)]			
	Control power supply terminals	L1C, L2C				
	Control I\O signal connector	CN1	Twisted pair or shielded twisted pair wires Core wire at least 28 AWG [0.0002 (0.12)], tinned, annealed copper twisted wires. See page 4 for details. Finished cable dimensions: maximum Φ0.63in (16mm) for CN1 and Φ0.27in (6.8mm) for CN2.			
	PG signal connector	CN2				
	Ground terminal	⏚	14 AWG [HIV 0.003 (2.0)]			

The following table shows types of cables. It is used in conjunction with the preceding tables.

Cable Type		Temperature Rating of Conductor °C
Name	Composition	
PVC	Standard polyvinyl chloride cable	—
IV	600V PVC cable	60
HIV	Temperature-resistant vinyl cable	75

The following table specifies the appropriate cables for CN1 and CN2 servo amplifier connectors.

Wire sizes were selected with the expectation of three cables per bundle, at an ambient temperature of 40°C, at the rated current level.

Connector Name	Signal	Description	Specification
Control I/O Signal Connector	CN1	Cable	Use twisted pair or shielded twisted pair wire.
		Applicable wire	(AWG): 24, 26, 28
		Finished cable Dimension	Φ0.63 (Φ16.0) maximum
PG Signal Connector	CN2	Cable	Use Yaskawa cable, or shielded twisted pair wire.
		Applicable wire	(AWG): 22, 24, 26 Use 22 AWG [0.0005in^2 (0.34mm^2)] for the encoder power supply and 26 AWG [0.0002 in^2 (0.14mm^2)] for other signals. These conditions permit wiring distances up to 65.6ft (20m).
		Finished cable Dimension	Φ0.27 (Φ6.8) maximum

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Peripheral Device Types and Capacities

Main Circuit Power Supply	Amplifier Model		Control Power Required (W)	Applicable Servomotor	Power Supply				Recommended Noise Filter**		Motor Magnetic Contactor
	Capacity (kW)	SGDH-			Capacity per Servo Amplifier (kVA)	Rated Main Power (A_{rms})	Maximum Inrush Current (A_{rms})	MCCB or Fuse Capacity* (A_{rms})	Model	Specifications	
Single-phase 100V	0.03	A3BE	13	SGMAH-A3B	0.15	1.1	28	4	Fn2070-6/07 (or FS5827-4-07)	Single-phase 250V_{ac} 6A (4A)	(10A) or equivalent
	0.05	A5BE		SGMAH-A5B	0.25	1.8					
	0.10	01BE		SGMAH-01B SGMPH-01B	0.40	2.0					
	0.20	02BE		SGMAH-02B SGMPH-02B	0.60	5.2		6	Fn2070-10/07	Single-phase 250V_{ac} 10A	
Single-phase 200V	0.03	A3AE		SGMAH-A3A	0.20	0.82		4	Fn2070-6/07 (or FS5827-4-07)	Single-phase 250V_{ac} 6A (4A)	
	0.05	A5AE		SGMAH-A5A	0.25	1.1					
	0.10	01AE		SGMAH-01A SGMPH-01A	0.40	2.0					
	0.20	02AE		SGMAH-02A SGMPH-02A	0.75	3.4					
	0.40	04AE		SGMAH-04A SGMPH-04A	1.2	5.5		8	Fn2070-10/07 (or FS5827-7-07)	Single-phase 250V_{ac} 10A (7A)	(20A) or equivalent
	0.75	08AE-S	15	SGMAH-08 SGMPH-08	2.1	11.0		11	Fn2070-16/07 (or FS5827-15-07)	Single-phase 250V_{ac} 16A (15A)	
	1.5	15AE-S		SGMPH-15	4.0	19.0		19	Fn350-30/33 (or FS5827-25-07)	Single-phase 250V_{ac} 30A (25A)	35A or equivalent
Three-phase 200V	0.50	05AE		SGMGH-05AOA	1.4	4.0		4	Fn258L-16/07	Three-phase 480V_{ac} 16A	(8A) or equivalent
	0.75	08AE		SGMAH-08A SGMPH-08A	1.9	5.4		7			(20A) or equivalent
	1.0	10AE		SGMGH-09AOA SGMSH-10A	2.3	7.0					
	1.5	15AE		SGMPH-15A SGMGH-13AOA SGMSH-15A	3.2	9.5		10			
	2.0	20AE		SGMGH-20AOA SGMSH-20A	4.3	12.0	56	13			(35A) or equivalent
	3.0	30AE		SGMGH-30AOA SGMSH-30A	5.9	17.0		17	Fn258L-30/07	Three-phase 480V_{ac} 30A	
	5.0	50AE		SGMGH-44 SGMSH-50	7.5	24	58	28	Fn258L-42/07	Three-phase 480V_{ac} 42A	50A or equivalent
	6.0	60AE	27	SGMGH-55	12.5	32	93	32			
	7.5	75AE		SGMGH-75	15.5	41		41	Fn258L-55/07	Three-phase 480V_{ac} 55A	65A or equivalent
	11.0	1AAE		SGMGH-1A	19.0	60	116	60	FS5559-150-35	Three-phase 250V_{ac} 150A	75A or equivalent
	15.0	1EAE		SGMGH-1E	30.0	80		80			100A or equivalent

* Size per local code requirements . Typical fuse interrupting characteristics at 25°C: 200% for 2s minimum; 700% for 0.01s minimum.

** The Fn□□□□ noise filter is manufactured by Schaffner Corporation. Specifiactions are available at: www.schaffner.com .

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Peripheral Device Manufacturers

J.S.T. Corporation
1957 South Lakeside Drive
Waukegan, Illinois 60085

Phone: (847) 473-1957
http://www.jst.com

Molex (Headquarters)
(Note: not selling 2CN serial encoder connector in the US)
2222 Wellington Court
Lisle, Illinois 60532

Phone: (630) 527-4474
Fax: (630) 548-2897

(Connector information is not available from Molex or Yaskawa)

For literature requests or Molex support for the 2CN connector, the Chicago area distributor isTTI. Ask for the Yaskawa inside slaes representative.
1-800-CALLTTI
(1-800-225-5884)

Schaffner EMC Inc.
52 Mayfield Ave.
Edison, New Jersey 08837

Phone: 1-800 367-5566
(732) 225-9533
Fax: (732) 225-4789
http://www.shaffner.com

TDK Corporation of America
1600 Feehanville Dr.
Mount Prospect, Illinois 60056

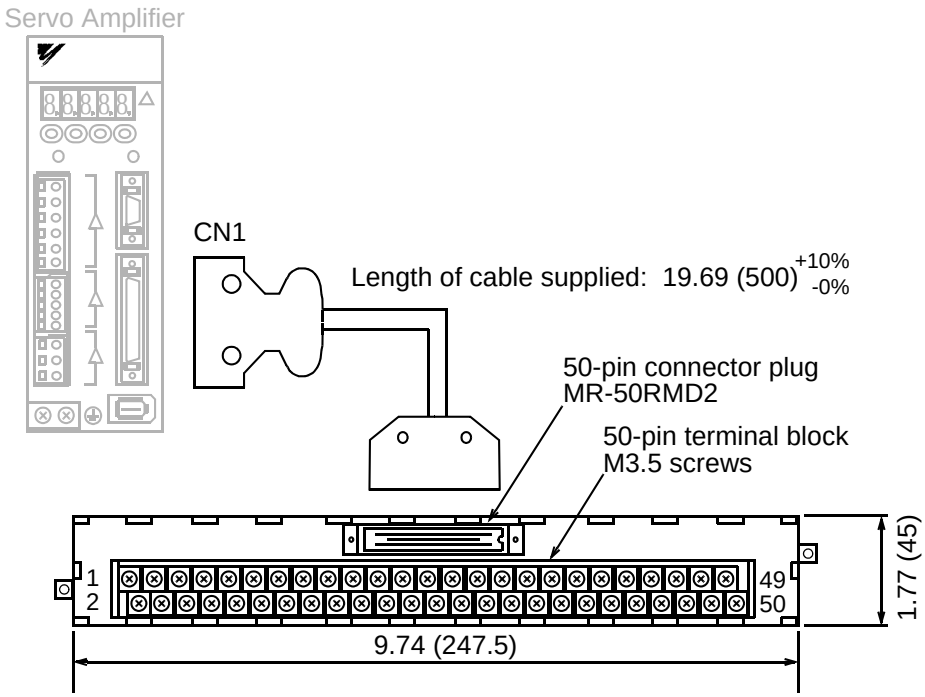
Phone: (847) 803-6100
Fax: (847) 803-6296

Tokin America
32950 Alvarado-Niles Rd.
Suite 500
Union City, California 94507

Phone: (510) 324-4110
Fax: (510) 324-1762
http://www.tokin.com

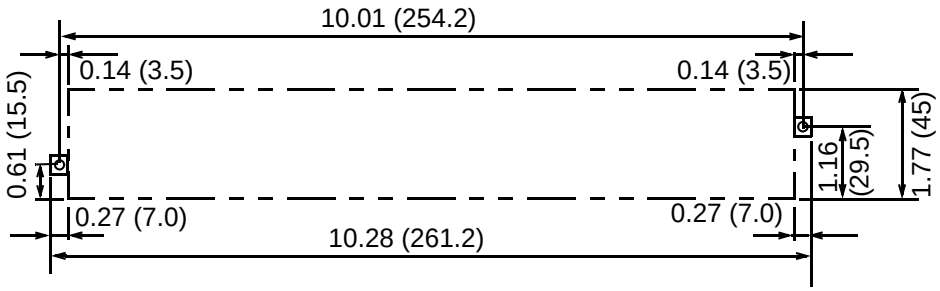
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Connector Terminal Block Converter Unit JUSP-TA50P



Connector Terminal Block Converter Unit
JUSP-TA50P* (cable included)

Mounting Hole Diagram



*Terminal specifications : See the following page

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JUSP-TA50P Terminal Block Pin Numbers and Signal Names

SGDH Servo Amplifier				JUSP-TA50P Terminal Block Unit		
Signal Name*		CN1 Pin Number		Connector Number		Terminal Block Number
SG		1		A1		1
SG		2	P	B1		2
PL1		3		A2		3
SEN		4		B2		4
V-REF		5	P	A3		5
SG		6		B3		6
PULS		7	P	A4		7
/PULS		8		B4		8
T-REF		9	P	A5		9
SG		10		B5		10
SIGN		11	P	A6		11
/SIGN		12		B6		12
PL2		13		A7		13
/CLR		14	P	B7		14
CLR		15		A8		15
		16		B8		16
		17		A9		17
PL3		18		B9		18
PCO		19	P	A10		19
/PCO		20		B10		20
BAT (+)		21	P	A11		21
BAT (-)		22		B11		22
		23		A12		23
		24		B12		24
/V-CMP+		25	P	A13		25
/V-CMP-		26		B13		26
/TGON+		27	P	A14		27
/TGON-		28		B14		28
/S-RDY+		29	P	A15		29
/S-RDY-		30		B15		30
ALM+		31	P	A16		31
ALM-		32		B16		32
PAO		33	P	A17		33
/PAO		34		B17		34
BPO		35	P	A18		35
/PBO		36		B18		36
ALO1		37		A19		37
ALO2		38		B19		38
ALO3		39		A20		39
/S-ON		40		B20		40
/P-CON		41		A21		41
P-OT		42		B21		42
N-OT		43		A22		43
/ALM-RST		44		B22		44
/P-CL		45		A23		45
/N-CL		46		B23		46
+24V IN		47		A24		47
PSO		48	P	B24		48
/PSO		49		A25		49
		50		B25		50
Connector Case						

Cable: Supplied with the terminal block

P: Indicates twisted pair wires.

*Preconfigured amplifier inputs and outputs are listed above as they are designated when the unit is shipped from the factory. Use the connection diagrams on the previous pages for more functional details.

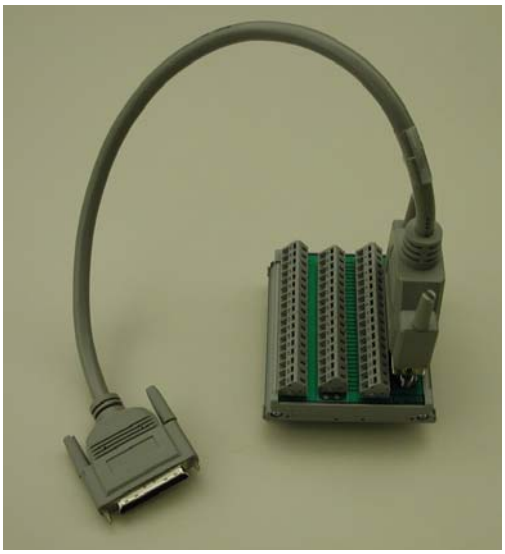
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JUSP-WA50P Product Specification

YASKAWA
A World of Automation Solutions™

1.Sumarry of Product

- Converter includes 50 pin cage clamp style terminal block, cable, and operating lever
- Functional alternative to JUSP-TA50P[1]
- Mounts to DIN 35 rail
- 50 pin high-density connector attaches directly to the SGDH amplifier CN1 connector
- Lengths available in 0.5, 1, 2 and 3 meter



2.Model number

Part Number		Length
JUSP-WA50P-D50		0.5 meter
JUSP-WA50P-01		1 meter
JUSP-WA50P-02		2 meter
JUSP-WA50P-03		3 meter

3.Specification

SPECIFICATION	CABLE
AWG	28
# OF WIRES	25 Twisted Pairs
UL /CSA	UL20276 & CSA II A/B
SHIELD	Connected on amp side only
MAX TEMP	60 deg
MAX VOLTAGE	300V
INSUL. RESISTANCE	20MOHMS/250V DC MIN.
SPECIFICATION	**TERMINAL BLOCK**
WIRE SIZE	AWG OF # 12-28
APPLICABLE WIRE	COPPER
WIRE SIZE WITH FERRULE	AWG OF # 14-24 COPPER (*1)
APPLICABLE FERRULE	WAGO 216 Series
MAX VOLTAGE	125VAC
MAX CURRENT	1A
MIN CURRENT	10uA
INSULATION RESISTANCE	10^12 OHM-cm
WITHSTAND VOLTAGE	23kV/mm
FLAMMABILITY	UL94V-2
TEMP. RATING	-60C ~ +105 C
APPLICABLE ENVIRONMENT	Same as Yaskawa amplifier
DIN RAIL MOUNTING	35mm
DIMS (LxHxD)mm	(94.2x85.0x35.4)

*1) It is not possible to always form a gastight seal when crimping a ferrule; it may not provide optimal performance depending on the application and signal characteristics.

[1] JUSP-TA50P is panel mount, 247.5mm x 45mm (vs. 94.2mm x 85mm) w/ 0.5 meter cable only. Reference Yaskawa Sigma II Servo System catalog at Yaskawa.com for more detail specs on JUSP-TA50P.

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4.Pullout force

4-1.Pullout force with copper cable.

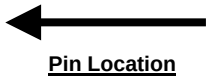
Size of conductor - AWG	Pullout force, pounds (N)
28	1 (4.5)
26	2 (8.9)
24	3 (13.4)
22	4.5 (20)
20	6.75 (30)
18	6.75 (30)
16	9 (40)
14	11.5 (50)
12	13.5 (60)

4-2.Pullout force with copper cable with ferrule.

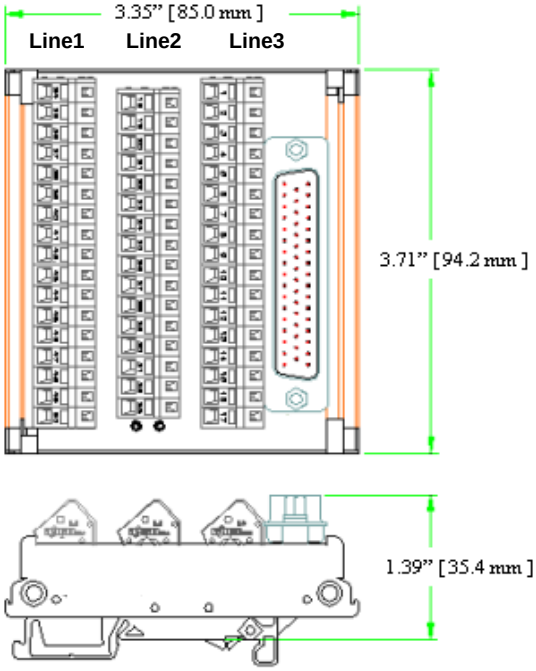
Size of conductor - AWG	Pullout force, pounds (N)
24	3 (13.4)
22	4.5 (20)
20	6.75 (30)
18	6.75 (30)
16	9 (40)
14	11.5 (50)

5.Pin Location and Drawing for Terminal

Line1	Line2	Line3
34	18	1
35	19	2
36	20	3
37	21	4
38	22	5
39	23	6
40	24	7
41	25	8
41	26	9
43	27	10
44	28	11
45	29	12
46	30	13
47	31	14
48	32	15
48	33	16
50		17



Pin Location



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JUSP-WA50P Terminal Block Pin Numbers and Signal Names

SGDH Servo Amplifier				JUSP-WA50P Terminal Block Unit		
Signal Name*		CN1 Pin Number		Connector Number		Terminal Block Number
SG		1		A1		1
SG		2	P	B1		2
PL1		3		A2		3
SEN		4		B2		4
V-REF		5	P	A3		5
SG		6		B3		6
PULS		7	P	A4		7
/PULS		8		B4		8
T-REF		9	P	A5		9
SG		10		B5		10
SIGN		11	P	A6		11
/SIGN		12		B6		12
PL2		13		A7		13
/CLR		14	P	B7		14
CLR		15		A8		15
		16		B8		16
		17		A9		17
PL3		18		B9		18
PCO		19	P	A10		19
/PCO		20		B10		20
BAT (+)		21	P	A11		21
BAT (-)		22		B11		22
		23		A12		23
		24		B12		24
/V-CMP+		25	P	A13		25
/V-CMP-		26		B13		26
/TGON+		27	P	A14		27
/TGON-		28		B14		28
/S-RDY+		29	P	A15		29
/S-RDY-		30		B15		30
ALM+		31	P	A16		31
ALM-		32		B16		32
PAO		33	P	A17		33
/PAO		34		B17		34
BPO		35	P	A18		35
/PBO		36		B18		36
ALO1		37		A19		37
ALO2		38		B19		38
ALO3		39		A20		39
/S-ON		40		B20		40
/P-CON		41		A21		41
P-OT		42		B21		42
N-OT		43		A22		43
/ALM-RST		44		B22		44
/P-CL		45		A23		45
/N-CL		46		B23		46
+24V IN		47		A24		47
PSO		48	P	B24		48
/PSO		49		A25		49
		50		B25		50
Connector Case						

Cable: Supplied with the terminal block

P: Indicates twisted pair wires.

*Preconfigured amplifier inputs and outputs are listed above as they are designated when the unit is shipped from the factory. Use the connection diagrams on the previous pages for more functional details.

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Cable Specifications and Peripheral Devices

Ratings and specifications for peripheral devices, as well as cable specifications for servo amplifiers are summarized in the tables below.

⚠ CAUTION

Wiring Precautions

- **Do not bundle or run power and signal lines together in the same duct.**
  Keep power and signal lines at least 11.81" (30cm) apart.
- **Use twisted pair or shielded multi-core twisted pair wires for signal and encoder (PG) feedback lines.**
- **The maximum lengths for signal lines are as follows:**
  - Maximum of 9.84ft (300cm) for reference input lines.
  - Maximum of 65.6ft (20m) for PG feedback lines.

Cable Specifications

The following table provides wire size specifications:

External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]				
			05DE	10DE	15DE	20DE	30DE
for 400V	Main circuit power input terminals	L1, L2, L3 (Three-phase)	16 AWG [HIV 0.0019 (1.25)]			14 AWG [0.003 (2.0)]	
	Servomotor connection terminals	U, V, W					
	Control power supply terminals	L1C, L2C	16 AWG [HIV 0.0019 (1.25)]				
	Control I\O signal connector	CN1	Twisted pair or shielded twisted pair wires Core wire at least 28 AWG [0.0002 (0.12)], tinned, annealed copper twisted wires. See page 8 for details. Finished cable dimensions: maximum Φ0.63in (16mm) for CN1 and Φ0.27in (6.8mm) for CN2.				
	PG signal connector	CN2					
	Ground terminal	⏚	14 AWG [HIV 0.003 (2.0)]				

External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]				
			50DE	60DE	75DE	1ADE	1EDE
for 400V	Main circuit power input terminals	L1, L2, L3 (Three-phase)	HIV 3.5 (0.005)		HIV 5.5 (0.009)	HIV 8 (0.012)	HIV 14 (0.022)
	Servomotor connection terminals	U, V, W	HIV 3.5 (0.005)	HIV 5.5 (0.009)	HIV 5.5 (0.009)	HIV 8 (0.012)	HIV 14 (0.022)
	Control power supply terminals	L1C, L2C	16 AWG [HIV 0.0019 (1.25)]				
	Control I\O signal connector	CN1	Twisted pair or shielded twisted pair wires Core wire at least 28 AWG [0.0002 (0.12)], tinned, annealed copper twisted wires. See page 8 for details. Finished cable dimensions: maximum Φ0.63in (16mm) for CN1 and Φ0.27in (6.8mm) for CN2.				
	PG signal connector	CN2					
	Ground terminal	⏚	14 AWG [HIV 0.003 (2.0)]				

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External Terminal Name		SGDH Terminal Symbol	Wire Size AWG [in^2 (mm^2)]				
			2BDE	3ZDE	3GDE	4EDE	5EDE
for 400V	Main circuit power input terminals	⏚ L1/R, L2/S, L3/T	6AWG [HIV 0.022 (14)]		4AWG [HIV 0.034 (22)]	2AWG [HIV 0.046 (30)]	1AWG [HIV 0.059 (38)]
	Servomotor connection terminals	⏚ U, V, W	6AWG [HIV 0.022 (14)]	4AWG [HIV 0.034 (22)]	2AWG [HIV 0.046 (30)]	1AWG [HIV 0.059 (38)]	1AWG [HIV 0.077 (50)]*
	Control power supply terminals	DC24P, DC24N	18 AWG [HIV 0.0015 (1.0)]				
	Heatsink fan power	380~480V, OV	18 AWG [HIV 0.0015 (1.0)]				
	Fan power terminals	⏚ U(A),V(B), W(C)	18 AWG [HIV 0.0015 (1.0)]				
	Regenerative resistor connector	B1, B2	14 AWG [HIV 0.003 (2.0)]				12AWG [HIV 0.0054 (3.5)]
	Dynamic brake power connector	DU, DV, DW	16 AWG [HIV 0.002 (1.25)]				12AWG [HIV 0.003 (2.0)]
	Dynamic brake control power	DB24, DBON	16 AWG [HIV 0.002 (1.25)]				

*The larger dimension falls within the limits of 1AWG.

Notes:
1. Wire sizes were selected for three cables per bundle at 40°C ambient temperature with the rated current.
2. Use cables with a minimum withstand voltage of 600V for main circuits.
3. If cables are bundled in PVC or metal ducts, consider the reduction ratio of the allowable current.
4. Use heat-resistant cable under high ambient or panel temperatures where normal vinyl cable will rapidly deteriorate.

The following table shows types of cables. It is used in conjunction with the preceding tables.

Cable Type		Temperature Rating of Conductor °C
Name	Composition	
PVC	Standard polyvinyl chloride cable	-
IV	600V PVC cable	60
HIV	Temperature-resistant vinyl cable	75

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The following table specifies the cables for CN1 and CN2 servo amplifier connectors.

Wire sizes were selected with the expectation of three cables per bundle, at an ambient temperature of 40°C, at the rated current level.

Connector Name	Signal	Description	Specification
Control I/O Signal Connector	CN1	Cable	Use twisted pair or shielded twisted pair wire.
		Applicable wire	(AWG): 24, 26, 28
		Finished cable Dimension	Φ0.63 (Φ16.0) maximum
PG Signal Connector	CN2	Cable	Use Yaskawa cable, or shielded twisted pair wire.
		Applicable wire	(AWG): 22, 24, 26 Use 22 AWG [0.0005 (0.34)] for the encoder power supply and 26 AWG [0.0002 (0.14)] for other signals. These conditions permit wiring distances up to 65.6ft (20m).
		Finished cable Dimension	Φ0.27 (Φ6.8) maximum

Peripheral Device Types and Capacities

Main Circuit Power Supply	Amplifier Model		Control Power Required (W)	Applicable Servomotor	Power Supply				Recommended Noise Filter**		Motor Magnetic Contactor
	Capacity (kW)	SGDH-			Capacity per Servo Amplifier (kVA)	Rated Input (A_{rms})	Maximum Inrush Current (A_{rms})	MCCB or Fuse Capacity* (A_{rms})	Model	Specifications	
Three-phase 400V	0.45	05DE	15	SGMGH-05D□A	1.2	2.0	28	1.7	Fn258L-7/07 (or FS5826-6-07)	Three-phase 480V_{ac} 7A (6A)	10A or equivalent
	1.0	10DE		SGMGH-09D□A SGMSH-10D SGMUH-10D	2.3	3.5		3.4			
	1.5	15DE		SGMGH-13D□A SGMSH-15D	3.2	4.8		4.6			
	2.0	20DE		SGMGH-20D□A SGMSH-20D	4.9	6.0	56	7.1	Fn258L-16/07 (or FS5826-10-07)	Three-phase 480V_{ac} 16A (10A)	20A or equivalent
	3.0	30DE		SGMGH-30D□A SGMSH-30D SGMUH-30D	6.8	8.5		9.8			
	5.0	50DE		SGMGH-44D SGMSH-50D	10.3	14.9	58	14.9	FS5559-35/33 (or FS5827-30-07)	Three-phase 480V_{ac} 35A (30A)	40A or equivalent
	6.0	60DE		SGMGH-55D	12.4	17.8	93	17.8			
	7.5	75DE		SGMGH-75D	15.4	22.3		22.3			50A or equivalent
	11.0	1ADE		SGMGH-1AD	22.6	32.7	116	32.7	FS5559-80/34 (or FS5826-55-07)	Three-phase 480V_{ac} 80A (55A)	75A or equivalent
	15.0	1EDE		SGMGH-1ED	30.9	44.6		44.6			100A or equivalent
	22.0	2BDE	150	SGMBH-2B	36.7	53	162	100	Fn258L-75-34	Three-phase 480V_{ac}	100A or equivalent
	30.0	3ZDE		SGMBH-3Z	50.1	72	650	150	Fn258L-100-35	Three-phase 480V_{ac}	150A or equivalent
	37.0	3GDE		SGMBH-3G	61.8	89			Fn258L-130-35		
	45.0	4EDE		SGMBH-4E	75.2	109	1300	225	Fn258L-180-7	Three-phase 480V_{ac}	225A or equivalent
	55.0	5EDE		SGMBH-5E	91.9	133					

* Size per local code requirements . Typical fuse interrupting characteristics at 25°C: 200% for 2s minimum; 700% for 0.01s minimum.

** The Fnžžžž noise filter is manufactured by Schaffner Corporation. Specifications are available at: www.schaffner.com

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Peripheral Device Manufacturers

J.S.T. Corporation
1957 South Lakeside Drive
Waukegan, Illinois 60085

Phone: (847) 473-1957
http://www.jst.com

Molex (Headquarters)
(Note: not selling 2CN serial encoder connector in the US)
2222 Wellington Court
Lisle, Illinois 60532

Phone:(630) 527-4474
Fax: (630) 548-2897

(Connector information is not available from Molex or Yaskawa)

For literature requests or Molex support for the 2CN connector, the Chicago area distributor is TTI Ask for the Yaskawa inside sales representative.

1-800-CALLTTI
(1-800-225-5884)

Schaffner EMC Inc.
52 Mayfield Ave.
Edison, New Jersey 08837

Phone: 1-800 367-5566
(732) 225-9533
Fax: (732) 225-4789
http://www.shaffner.com

TDK Corporation of America
1600 Feehanville Dr.
Mount Prospect, Illinois 60056

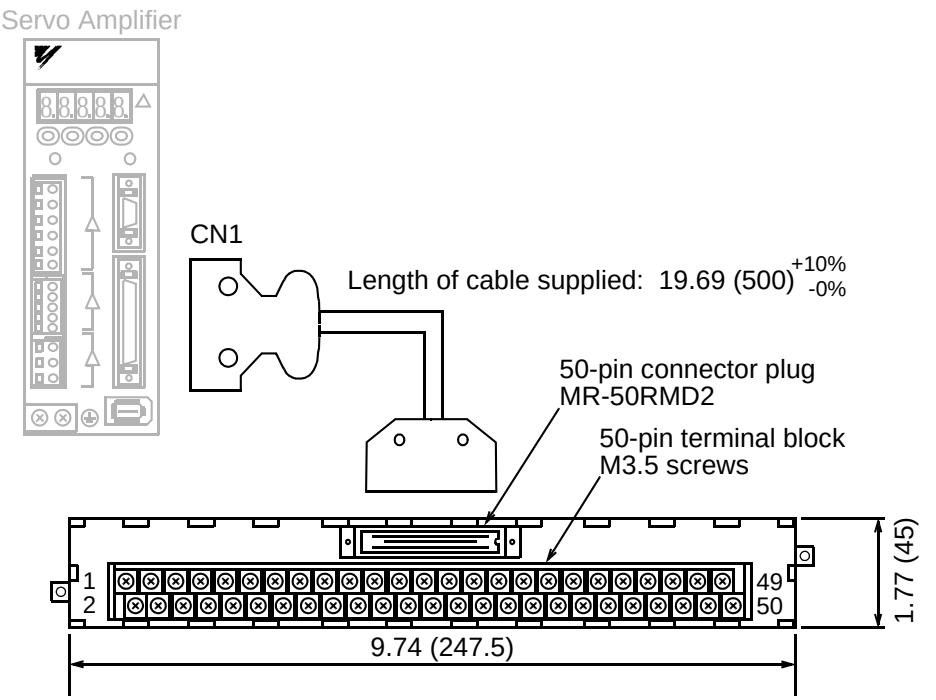
Phone: (847) 803-6100
Fax: (847) 803-6296

Tokin America
32950 Alvarado-Niles Rd.
Suite 500
Union City, California 94507

Phone: (510) 324-4110
Fax: (510) 324-1762
http://www.tokin.com

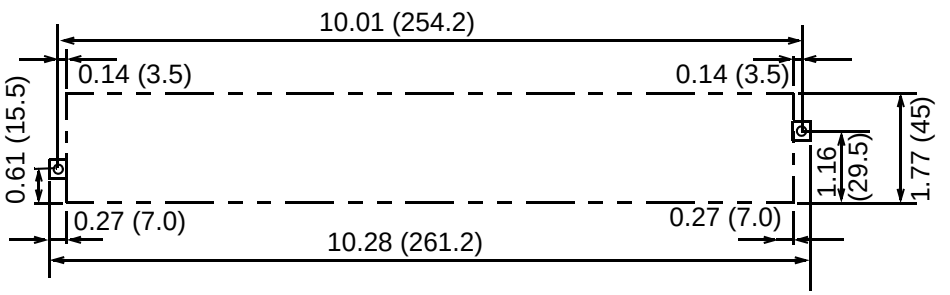
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Connector Terminal Block Converter Unit JUSP-TA50P



Connector Terminal Block Converter Unit
JUSP-TA50P* (cable included)

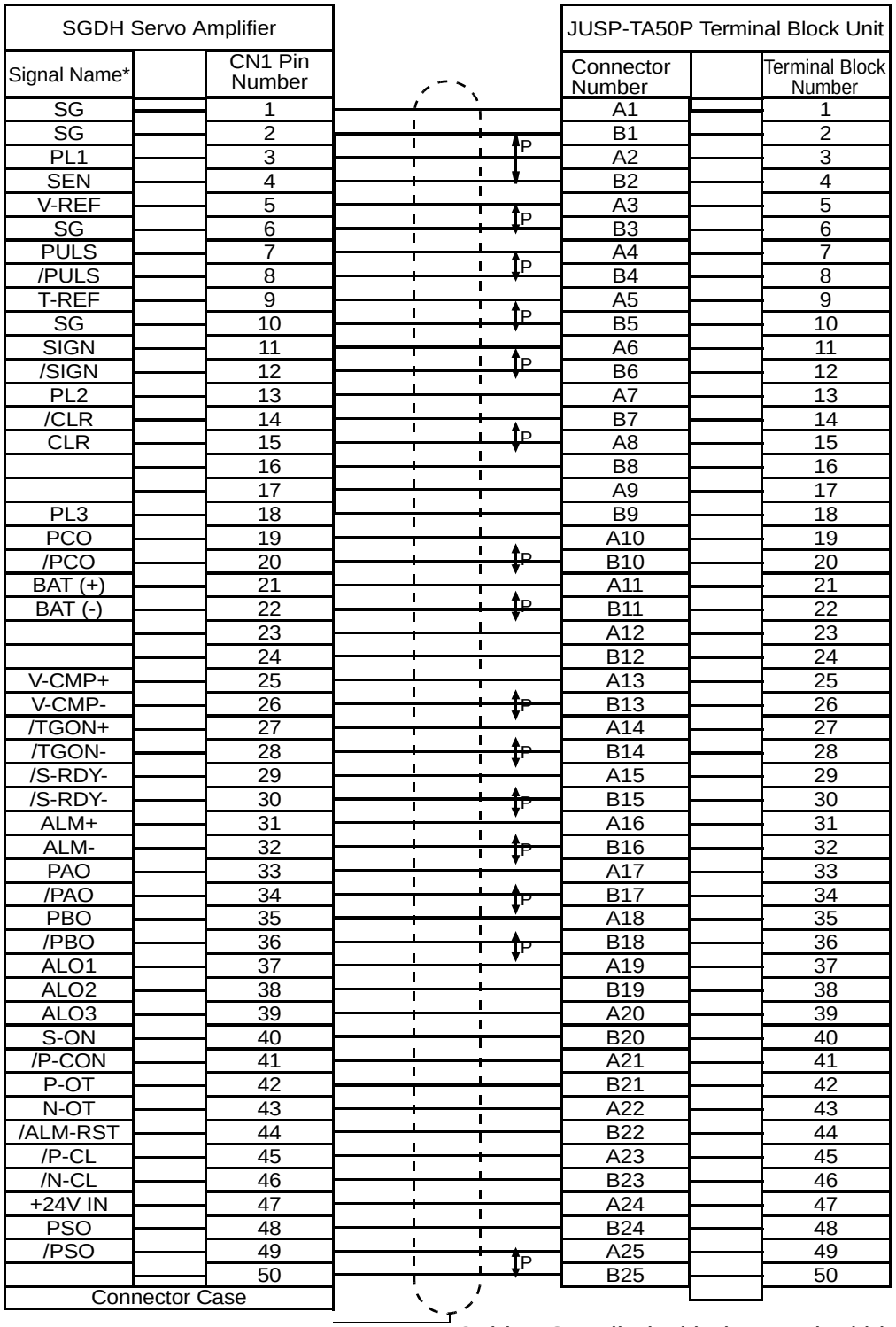
Mounting Hole Diagram



*terminal specifications : see the following page

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JUSP-TA50P Terminal Block Pin Numbers and Signal Names



SGDH Servo Amplifier				JUSP-TA50P Terminal Block Unit		
Signal Name*		CN1 Pin Number		Connector Number		Terminal Block Number
SG		1		A1		1
SG		2	P	B1		2
PL1		3		A2		3
SEN		4		B2		4
V-REF		5	P	A3		5
SG		6		B3		6
PULS		7	P	A4		7
/PULS		8		B4		8
T-REF		9	P	A5		9
SG		10		B5		10
SIGN		11	P	A6		11
/SIGN		12		B6		12
PL2		13		A7		13
/CLR		14	P	B7		14
CLR		15		A8		15
		16		B8		16
		17		A9		17
PL3		18		B9		18
PCO		19	P	A10		19
/PCO		20		B10		20
BAT (+)		21	P	A11		21
BAT (-)		22		B11		22
		23		A12		23
		24		B12		24
V-CMP+		25	P	A13		25
V-CMP-		26		B13		26
/TGON+		27	P	A14		27
/TGON-		28		B14		28
/S-RDY-		29	P	A15		29
/S-RDY-		30		B15		30
ALM+		31	P	A16		31
ALM-		32		B16		32
PAO		33	P	A17		33
/PAO		34		B17		34
PBO		35	P	A18		35
/PBO		36		B18		36
ALO1		37		A19		37
ALO2		38		B19		38
ALO3		39		A20		39
S-ON		40		B20		40
/P-CON		41		A21		41
P-OT		42		B21		42
N-OT		43		A22		43
/ALM-RST		44		B22		44
/P-CL		45		A23		45
/N-CL		46		B23		46
+24V IN		47		A24		47
PSO		48		B24		48
/PSO		49	P	A25		49
		50		B25		50
Connector Case						

Cable: Supplied with the terminal block

P: Indicates twisted pair wires.

* Preconfigured amplifier inputs and outputs are listed above as they are designated when the unit is shipped from the factory. Use the connection diagrams on the previous pages for more functional details.

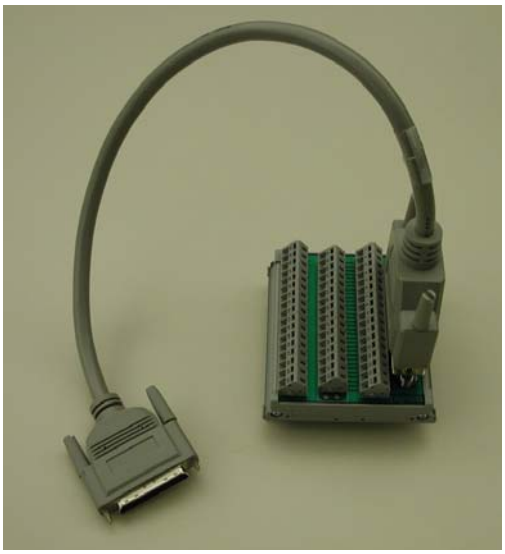
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JUSP-WA50P Product Specification

YASKAWA
A World of Automation Solutions™

1.Sumarry of Product

- Converter includes 50 pin cage clamp style terminal block, cable, and operating lever
- Functional alternative to JUSP-TA50P[1]
- Mounts to DIN 35 rail
- 50 pin high-density connector attaches directly to the SGDH amplifier CN1 connector
- Lengths available in 0.5, 1, 2 and 3 meter



2.Model number

Part Number		Length
JUSP-WA50P-D50		0.5 meter
JUSP-WA50P-01		1 meter
JUSP-WA50P-02		2 meter
JUSP-WA50P-03		3 meter

3.Specification

SPECIFICATION	CABLE
AWG	28
# OF WIRES	25 Twisted Pairs
UL /CSA	UL20276 & CSA II A/B
SHIELD	Connected on amp side only
MAX TEMP	60 deg
MAX VOLTAGE	300V
INSUL. RESISTANCE	20MOHMS/250V DC MIN.
SPECIFICATION	**TERMINAL BLOCK**
WIRE SIZE	AWG OF # 12-28
APPLICABLE WIRE	COPPER
WIRE SIZE WITH FERRULE	AWG OF # 14-24 COPPER (*1)
APPLICABLE FERRULE	WAGO 216 Series
MAX VOLTAGE	125VAC
MAX CURRENT	1A
MIN CURRENT	10uA
INSULATION RESISTANCE	10^12 OHM-cm
WITHSTAND VOLTAGE	23kV/mm
FLAMMABILITY	UL94V-2
TEMP. RATING	-60C ~ +105 C
APPLICABLE ENVIRONMENT	Same as Yaskawa amplifier
DIN RAIL MOUNTING	35mm
DIMS (LxHxD)mm	(94.2x85.0x35.4)

*1) It is not possible to always form a gastight seal when crimping a ferrule; it may not provide optimal performance depending on the application and signal characteristics.

[1] JUSP-TA50P is panel mount, 247.5mm x 45mm (vs. 94.2mm x 85mm) w/ 0.5 meter cable only. Reference Yaskawa Sigma II Servo System catalog at Yaskawa.com for more detail specs on JUSP-TA50P.

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4.Pullout force

4-1.Pullout force with copper cable.

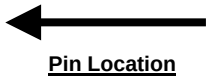
Size of conductor - AWG	Pullout force, pounds (N)
28	1 (4.5)
26	2 (8.9)
24	3 (13.4)
22	4.5 (20)
20	6.75 (30)
18	6.75 (30)
16	9 (40)
14	11.5 (50)
12	13.5 (60)

4-2.Pullout force with copper cable with ferrule.

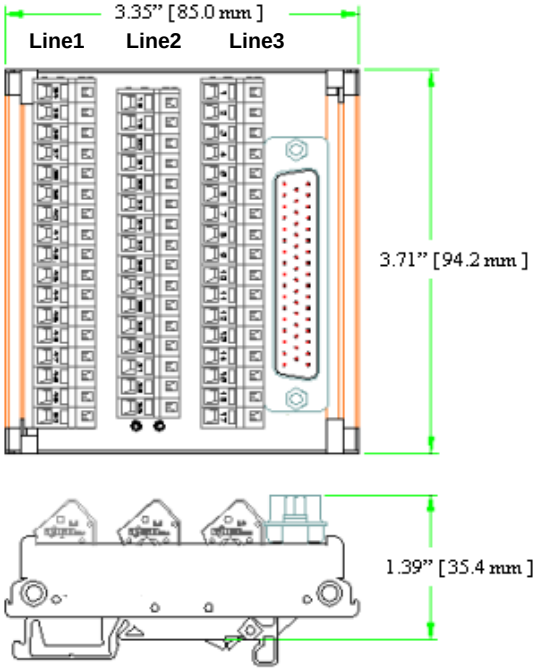
Size of conductor - AWG	Pullout force, pounds (N)
24	3 (13.4)
22	4.5 (20)
20	6.75 (30)
18	6.75 (30)
16	9 (40)
14	11.5 (50)

5.Pin Location and Drawing for Terminal

Line1	Line2	Line3
34	18	1
35	19	2
36	20	3
37	21	4
38	22	5
39	23	6
40	24	7
41	25	8
41	26	9
43	27	10
44	28	11
45	29	12
46	30	13
47	31	14
48	32	15
48	33	16
50		17



Pin Location



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JUSP-WA50P Terminal Block Pin Numbers and Signal Names

SGDH Servo Amplifier				JUSP-WA50P Terminal Block Unit		
Signal Name*		CN1 Pin Number		Connector Number		Terminal Block Number
SG		1		A1		1
SG		2	P	B1		2
PL1		3		A2		3
SEN		4		B2		4
V-REF		5	P	A3		5
SG		6		B3		6
PULS		7	P	A4		7
/PULS		8		B4		8
T-REF		9	P	A5		9
SG		10		B5		10
SIGN		11	P	A6		11
/SIGN		12		B6		12
PL2		13		A7		13
/CLR		14	P	B7		14
CLR		15		A8		15
		16		B8		16
		17		A9		17
PL3		18		B9		18
PCO		19	P	A10		19
/PCO		20		B10		20
BAT (+)		21	P	A11		21
BAT (-)		22		B11		22
		23		A12		23
		24		B12		24
/V-CMP+		25	P	A13		25
/V-CMP-		26		B13		26
/TGON+		27	P	A14		27
/TGON-		28		B14		28
/S-RDY+		29	P	A15		29
/S-RDY-		30		B15		30
ALM+		31	P	A16		31
ALM-		32		B16		32
PAO		33	P	A17		33
/PAO		34		B17		34
BPO		35	P	A18		35
/PBO		36		B18		36
ALO1		37		A19		37
ALO2		38		B19		38
ALO3		39		A20		39
/S-ON		40		B20		40
/P-CON		41		A21		41
P-OT		42		B21		42
N-OT		43		A22		43
/ALM-RST		44		B22		44
/P-CL		45		A23		45
/N-CL		46		B23		46
+24V IN		47		A24		47
PSO		48	P	B24		48
/PSO		49		A25		49
		50		B25		50
Connector Case						

Cable: Supplied with the terminal block

P: Indicates twisted pair wires.

*Preconfigured amplifier inputs and outputs are listed above as they are designated when the unit is shipped from the factory. Use the connection diagrams on the previous pages for more functional details.

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