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JIS C 0303 : 2000

Graphical symbols of wiring
diagram for architectural plans

ICS 29.020

Descriptors : graphic symbols, symbols, graphic representation, internal, electric wiring systems, circuit diagrams, interior lighting

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS C 0303 : 1984** is replaced with **JIS C 0303 : 2000**.

In this revision, the text has been revised by carrying out modification and addition of graphical symbols of wiring diagram for architectural plans based on the relevant Domestic Standards and International Standards.

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Contents

	Page
1 Scope	1
2 Wirings	1
2.1 General wirings	1
2.2 Bus duct	6
2.3 Synthetic resin raceway	7
2.4 Extension of installation	7
2.5 Removal of installation	7
3 Machinery and equipment	7
4 Electric lamp and electric power	9
4.1 Luminaire	9
4.2 Socket-outlets	11
4.3 Flashing switch	13
4.4 Switches and instruments	15
4.5 Switchboards, distribution boards, etc.	17
5 Communication and information	18
5.1 Telephone and information devices	18
5.2 Alarm, calling, indication and nurse call equipments	21
5.3 Electric clock equipment	22
5.4 Loudspeaker, interphone and video equipment	22
5.5 Television community antenna reception equipment	24
5.6 Parking area control facilities	25
6 Disaster prevention and crime prevention	26
6.1 Automatic fire alarm equipment	26
6.2 Alarm equipment for apartment house	29
6.3 Emergency alarming equipment	29
6.4 Fire extinguishing facility	30

C 0303 : 2000

6.5	Automatic shut-off facility	31
6.6	Gas leakage alarm	31
6.7	Auxiliary equipment for radio communication	33
6.8	Surveillance camera facility	34
6.9	Mechanical guard facility	34
7	Lightning arrester facility	35
8	Outdoor facility	35

Graphical symbols of wiring diagram for architectural plans

1 Scope This Japanese Industrial Standard specifies graphical symbols to be used in diagrams which show the wiring, the machinery and equipment, and the positions and methods for installation thereof in architectural wiring system for electric lamp, electric power, communication, information, disaster prevention, crime prevention, lightning arrester facility, outdoor facility, etc.

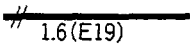
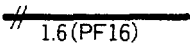
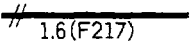
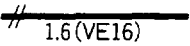
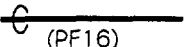
2 Wirings

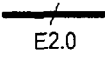
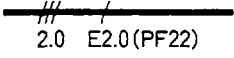
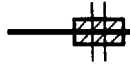
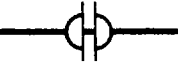
2.1 General wirings

Designation	Graphical symbol	Description																																					
Ceiling-covered wiring	————	a) When the wiring in the space above ceiling is identified in the ceiling-covered wiring, ——— may be used for such wiring.																																					
Floor-covered wiring	— — —	b) For graphical symbol for exposed wiring along floor and for wiring in double floor, ——— may be used.																																					
Exposed wiring	-----	c) When indication of kind of wire is necessary, the appropriate symbol in Table 1 shall be entered.																																					
Table 1 Symbols for wires																																							
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pair polyethylene insulated polyvinyl chloride sheathed cable</td><td>EM-CE</td><td>600 V cross-linked polyethylene insulated flame retardant polyethylene sheathed cable</td></tr><tr><td>CPEV-S</td><td>City-service pair polyethylene insulated polyvinyl chloride sheathed cable (with shield)</td><td>EM-EE</td><td>600 V polyethylene insulated flame retardant polyethylene sheathed cable</td></tr><tr><td>CPEV-SS</td><td>City-service pair polyethylene insulated polyvinyl chloride sheathed cable (self supported)</td><td>EM-EEF</td><td>600 V polyethylene insulated flame retardant polyethylene sheathed flat cable</td></tr><tr><td>FCPEV</td><td>Color-coded polyethylene insulated polyvinyl chloride sheathed cable</td><td>EM-CCE</td><td>Cross-linked polyethylene insulated flame retardant polyethylene sheathed control cable</td></tr><tr><td>CPEE</td><td>City-service pair polyethylene insulated and sheathed cable</td><td>EM-CEE</td><td>Polyethylene insulated flame retardant polyethylene sheathed control cable</td></tr><tr><td>CPEE-S</td><td>City-service pair polyethylene insulated and sheathed cable (with shield)</td><td>MVVS</td><td>Polyvinyl chloride insulated microphone cord</td></tr><tr><td>CPEE-SS</td><td>City-service pair polyethylene insulated and sheathed cable (self supported)</td><td>EBT</td><td>Electronic button telephone cable</td></tr><tr><td>CCP</td><td>Color-coded polyethylene insulated and sheathed cable</td><td>TKEV</td><td>Architectural telecommunication cable</td></tr><tr><td>@C-2V</td><td>Radio-frequency coaxial cable (ECX)</td><td>UTP</td><td>UTP cable</td></tr><tr><td>S-@C-FB</td><td>Satellite broadcast receiving indoor cellular polyethylene insulated polyvinyl chloride insulated coaxial cable</td><td>OPT</td><td>Optical fiber cable</td></tr><tr><td></td><td></td><td>ITPEV</td><td>Indoor polyethylene insulated polyvinyl chloride sheathed telecommunication cable</td></tr><tr><td></td><td></td><td>ITPEV-S</td><td>Indoor polyethylene insulated polyvinyl 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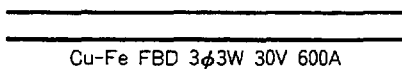
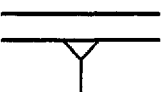
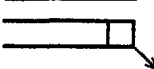
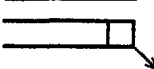
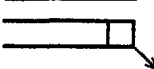
Designation	Graphical symbol	Description																														
		d) The thickness and number of wires shall be entered as follows: The unit may be omitted if it is obvious. The 2.0 indicates the diameter and 2 indicates the cross sectional area. Example : $\frac{///}{1.6} \frac{//}{2.0} \frac{//}{2} \frac{///}{8}$ Example of appended numerals : $\frac{1.6 \times 5}{5.5 \times 1}$ If the thickness and number of wires are clear in the specification or the like, they are not necessarily entered. e) The thickness and number (or number of pairs) of cores in a cable shall be entered as stated below, and the voltage shall be appended, if necessary. Example : For 1.6 mm, 3 cores $\frac{1.6-3C}{0.5-100P}$ For 0.5 mm, 100 pairs If the thickness and number of cores are clear in the specification or the like, they are not necessarily entered. f) The point of connection of wires shall be indicated as follows:  g) If it is necessary to indicate the kind of tube, the appropriate symbol in Table 2 shall be entered. Table 2 Symbols for tubes <table border="1"> <thead> <tr> <th>Symbol</th><th>Kind of tube</th></tr> </thead> <tbody> <tr><td>E</td><td>Rigid steel conduit (threadless conduit)</td></tr> <tr><td>PF</td><td>Pliable plastic conduit (PF conduit)</td></tr> <tr><td>CD</td><td>Pliable plastic conduit (CD conduit)</td></tr> <tr><td>F2</td><td>Flexible metal conduit class 2</td></tr> <tr><td>F</td><td>Underfloor duct</td></tr> <tr><td>FC</td><td>Underfloor duct (convex type)</td></tr> <tr><td>MM1</td><td>Metal raceway class 1</td></tr> <tr><td>MM2</td><td>Metal raceway class 2</td></tr> <tr><td>SGP</td><td>Carbon steel pipe for ordinary piping</td></tr> <tr><td>STPG</td><td>Carbon steel pipe for pressure service</td></tr> <tr><td>STK</td><td>Carbon steel pipe for general structural purposes</td></tr> <tr><td>PEG</td><td>Synthetic resin coated steel pipe for cable protection</td></tr> <tr><td>PLP</td><td>Polyethylene coated steel pipe</td></tr> <tr><td>BST</td><td>Brass pipe</td></tr> </tbody> </table>	Symbol	Kind of tube	E	Rigid steel conduit (threadless conduit)	PF	Pliable plastic conduit (PF conduit)	CD	Pliable plastic conduit (CD conduit)	F2	Flexible metal conduit class 2	F	Underfloor duct	FC	Underfloor duct (convex type)	MM1	Metal raceway class 1	MM2	Metal raceway class 2	SGP	Carbon steel pipe for ordinary piping	STPG	Carbon steel pipe for pressure service	STK	Carbon steel pipe for general structural purposes	PEG	Synthetic resin coated steel pipe for cable protection	PLP	Polyethylene coated steel pipe	BST	Brass pipe
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Designation	Graphical symbol	Description												
		Table 2 (concluded) <table><tr><th>Symbol</th><th>Kind of tube</th></tr><tr><td>VE</td><td>Unplasticized polyvinyl chloride conduit</td></tr><tr><td>VP</td><td>Unplasticized polyvinyl chloride pipe</td></tr><tr><td>HIVE</td><td>Shock resistant unplasticized polyvinyl chloride conduit</td></tr><tr><td>HIVP</td><td>Shock resistant unplasticized polyvinyl chloride pipe</td></tr><tr><td>FEP</td><td>Corrugated unplasticized synthetic resin pipe</td></tr></table>	Symbol	Kind of tube	VE	Unplasticized polyvinyl chloride conduit	VP	Unplasticized polyvinyl chloride pipe	HIVE	Shock resistant unplasticized polyvinyl chloride conduit	HIVP	Shock resistant unplasticized polyvinyl chloride pipe	FEP	Corrugated unplasticized synthetic resin pipe
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HIVE	Shock resistant unplasticized polyvinyl chloride conduit													
HIVP	Shock resistant unplasticized polyvinyl chloride pipe													
FEP	Corrugated unplasticized synthetic resin pipe													
		h) Piping shall be indicated as follows: For steel conduit (threadless conduit)  For pliable plastic conduit (PF conduit)  For flexible metal conduit class 2  For unplasticized polyvinyl chloride conduit  For PF conduit without accommodated wires  If the piping is clear in the specification or the like, the said indication may be omitted. i) The indication of floor duct shall be as follows: Example :   If necessary, junction box shall be indicated as follows:  j) The indication of cable rack shall be as follows:  or  The size shall be appended. k) The indication of metal duct shall be as follows:  l) The indication of metal surface raceway shall be as follows:  m) The indication of lighting duct shall be as follows:   The above  indicates a feed-in box.												

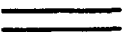
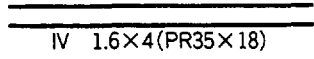
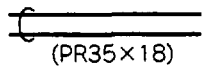
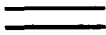
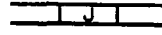
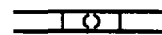
Designation	Graphical symbol	Description
		If necessary, voltage, number of poles and capacity shall be entered. Example :  LD 125V 2P 15A n) The indication of earth wire shall be as follows: Example :  E2.0 o) Such a case that the earth wire and distribution lines are placed in the same conduit, shall be indicated as follows: Example :  2.0 E2.0(PF22) If existence of earth wire in the conduit is clear, the symbol E is not necessarily entered. p) The part of fire preventive zone at which cables run through shall be indicated as follows:  or 
Wiring going upwards Wiring going downwards Wiring passing through	  	The part of fire preventive zone at which cables run through shall be indicated as follows: going upwards  going downwards  passing through 
Pull box		a) The kind and dimensions of materials shall be additionally entered. b) Marking corresponding to the size and shape of the box may be employed.
Joint box		
Joint box for VVF		
Earthing terminal		For the terminal of medical equipment, H shall be suffixed.
Earthing center		For the center of medical equipment, H shall be suffixed.
Earthing pole		a) The class of earthing shall be suffixed as follows: Class A E_A, Class B E_B, Class C E_C, Class D E_D Example :  E_A

Designation	Graphical symbol	Description
		b) If necessary, purpose of earthing pole, kind of material, size and earthing resistance shall be suffixed.
Incoming point		This symbol may be applied to service entrance.

2.2 Bus duct

Designation	Graphical symbol	Description												
Bus duct		a) For the indication of kinds of bus ducts the following symbols shall be used. <table><tr><td>Feeder bus duct</td><td>FBD</td></tr><tr><td>Low-voltage insulated fire-proof bus duct</td><td>FPBD</td></tr><tr><td>Plug-in bus duct</td><td>PBD</td></tr><tr><td>Trolley bus duct</td><td>TBD</td></tr></table> b) For rain-proof type, WP shall be suffixed. c) For the indication of material, electric system, rated voltage, and rated current, the following example shall be used. Example :  d) For the indication of an expansion joint the following symbol shall be used.  e) For the indication of an off-set, the following symbol shall be used.  f) For the indication of tapped bus duct the following symbol shall be used.  g) For the indication of wiring going upwards and downwards, the following symbols shall be used. <table><tr><td>Going upwards</td><td></td></tr><tr><td>Going downwards</td><td></td></tr></table> h) The indication may be made by changing the width of symbol according to the rated current.	Feeder bus duct	FBD	Low-voltage insulated fire-proof bus duct	FPBD	Plug-in bus duct	PBD	Trolley bus duct	TBD	Going upwards		Going downwards	
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Going upwards														
Going downwards														

2.3 Synthetic resin raceway

Designation	Graphical symbol	Description
Synthetic resin raceway		a) For the indication of kind, thickness and number of wires, size of raceway, etc., the following symbols shall be used. Example :   When no wire is contained. b) Graphical symbol  may be substituted by . c) For the indication of a joint box the following symbol shall be used.  d) For the indication of a socket-outlet, the following symbol shall be used.  e) For the indication of a flashing device, the following symbol shall be used.  f) For the indication of a twist-load type rosette, the following symbol shall be used. 

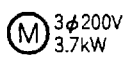
2.4 Extension of installation For the indication of extended and existing installation in the same diagram, the extended portion shall be shown by thick lines and the existing portion shall be indicated by thin lines or dotted lines.

Alternatively the extended portion and the existing portion may be identified by color.

2.5 Removal of installation For the removal of installation, × shall be put on the portion removed.

Example : ~~×××××~~

3 Machinery and equipment

Designation	Graphical symbol	Description
Motor		If necessary, the electric system, voltage, capacity, etc., shall be indicated as in the following example. Example : 

Designation	Graphical symbol	Description
Capacitor		The description for motor shall be applied as practicable.
Electric heater		The description for motor shall be applied as practicable.
Ventilation fan		a) If necessary, the kind (including portable fan) and the size shall be suffixed. b) The fan to be mounted to ceiling shall be indicated as follows: 
Room air conditioner		a) The letter O shall be suffixed for outdoor unit and letter I for indoor unit.   b) If necessary, electric system, voltage, capacity, etc., shall be suffixed.
Electromagnetic valve		If necessary, electric system, voltage, etc., shall be suffixed.
Motor operated valve		If necessary, electric system, voltage, etc., shall be suffixed.
Small size transformer		a) If necessary, capacity, voltages, etc., shall be suffixed. b) If necessary, such letters shall be suffixed that, B for bell transformer, R for remote control transformer, N for neon transformer, F for ballast for fluorescent lamp and H for ballast for HID lamp (high-efficiency discharge lamp).  c) Ballasts for fluorescent lamp and for HID lamp which are accommodated in a luminaire are not indicated.
Rectifying device		If necessary, kind, voltage, capacity, etc., shall be suffixed.
Storage battery		If necessary, kind, voltage, capacity, etc., shall be suffixed.
Generator		If necessary, electric system, voltage and capacity shall be suffixed for the generator, and kind, output, etc., for the prime mover.