

JIS

JAPANESE INDUSTRIAL STANDARD

**Graphical Symbols for Medical
Radiological Equipment**

JIS Z 4004—1989

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JAPANESE INDUSTRIAL STANDARD

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Graphical Symbols for Medical Radiological Equipment Z 4004-1989

1. Scope

This Japanese Industrial Standard specifies the graphical symbols displayed mainly on the outsides and insides of the medical radiological equipments and accessories thereof.

Furthermore, the graphical symbols specified herein may also be used for the circuit diagrams, wiring diagrams, block diagrams, etc.

Remark: The graphic symbols specified in the classification 01, 02, 03 and 05 should preferably be used in common with the medical electrical appliances.

2. Classification

The classification shall be as given in the following:

- 01 Those which are generally used also for the appliances other than the medical electrical appliances.
- 02 Those which are related to the classification of appliances.
- 03 Those which are related to safety.
- 04 Those which are related to the radiological equipment.
- 05 Those which are related to the marking, recording and transmission.

3. Methods to Use Graphical Symbols

The methods to use the graphical symbols shall be as given in the following:

- (1) Even though the sizes of the graphical symbols may be varied, shapes should preferably be similar as far as possible.

In addition, applications may be carried out to discriminate uses such as by changing the thicknesses of lines and by reversing the order of white and black.

Informative reference: In the case where the colour of the part of a graphical symbol differs from that of the surrounding part displaying it, care shall be taken to that, in some cases, the enclosure of graphical symbol has a particular meaning.

Corresponding International Standards and Reference Standards: See page 35.

Example: As given in the figure below, the graphical symbol of general earth terminal becomes the graphical symbol of protective earth terminal by enclosing it with a circle.



01-22 (General earth)



01-21 (Protective earth)

- (2) Where required, any character or abbreviation word may be appended to the graphical symbol to clarify its meaning.

In addition, graphical symbols may be appended with numbers to discriminate.

- (3) In the case where if required, two or more of graphical symbols or the elements of graphical symbol may also be used in combination.

Informative reference: In this case, care shall be taken so as not to lose the meanings by which these graphical symbols are prescribed.

- (4) In the case where the graphical symbols are to be emphasized by means of colours or lights, the following matters shall be observed. However, as regards those of which colours to be used for the graphical symbols have been prescribed, those prescriptions shall be observed.

- (a) Colour it red or allow it to light up red shall mean danger or emergency.
- (b) Colour it yellow or orange or allow it to light up yellow or orange colour shall mean caution or warning.

4. Numbers, Names and Graphical Symbols

The numbers, names and graphical symbols shall be as given in the following:

01 Graphical Symbols which are Generally Used also for Other Appliances than the Radiological Equipment

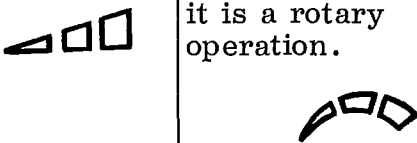
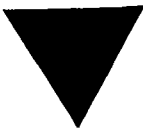
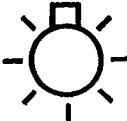
No.	Title	Symbol	Remark	Reference
01-01	On (power)		This indicates ON of total power or its state.	IEC/417-5007
01-02	Off (power)		This indicates OFF of total power or its state.	IEC/417-5008
01-03	On/off (push-push)		A switch of which state of ON or OFF is sustained, and ON and OFF can be switched over at every pushing.	IEC/417-5010
01-04	On/off (push-button)		A switch of which state of ON is sustained only while being pushed, and is switched over to OFF automatically when released.	IEC/417-5011
01-05	Stand-by		This indicates that the function of machine is not attained the working conditions.	IEC/417-5009
01-06	Stand-by or preparatory state for a part of equipment		This indicates that a partial circuit or function block is at a preparatory state to the final step.	IEC/417-5266

No.	Title	Symbol	Remark	Reference
01-07	"ON" only for a part of equipment		This indicates ON of power to a partial circuit or functional block or its selection.	IEC/417-5264
01-08	"OFF" only for a part of equipment		This indicates OFF of power to a partial circuit or functional block or its non-selection.	IEC/417-5265
01-09	Start (of action)		This indicates the start of action.	IEC/417-5104
01-10	Stop (of action)		This indicates the stop of action.	IEC/417-5110
01-11	Fast stop		Under an emergency state, this indicates the operating part for the fast stop of the appliance during operating.	IEC/417-5178
01-12	Pause; interruption			IEC/417-5111
01-13	"IN"-position of a bistable push control		This indicates the "IN"-position of a push button switch with latch.	IEC/417-5268

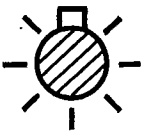
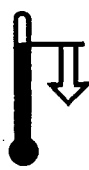
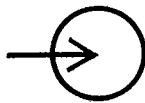
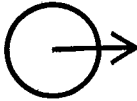
No.	Title	Symbol	Remark	Reference
01-14	"OUT"-position of a bistable push control		This indicates the "OUT"-position of a push button switch with latch.	IEC/417-5269
01-15	Alternating current			IEC/417-5032
01-16	Three phase alternating current			IEC/601-1
01-17	Connection point for the neutral conductor on permanently installed equipment		This indicates the connection point for the neutral conductor on permanently installed equipment.	IEC/601-1
01-18	Three phase alternating current with neutral conductor			IEC/601-1
01-19	Direct current			IEC/417-5031
01-20	Both direct and alternating current			IEC/417-5033

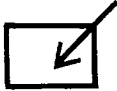
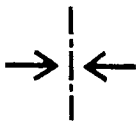
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No.	Title	Symbol	Remark	Reference
01-21	Protective earth (ground)		This indicates the connection with the earth. This is also used for an additional protective earth terminal.	IEC/417-5019
01-22	Earth (ground)		Connection with the earth.	IEC/417-5017
01-23	Noiseless (clean) earth (ground)		An earth point to a particular earth system for preventing noise from the earth or power source conductors which causes the misoperation of the equipment.	IEC/417-5018
01-24	Frame or chassis			IEC/417-5020
01-25	Equipotentiality			IEC/417-5021
01-26	Variability		Linear operation. When it is a rotary operation.	IEC/417-5004
				

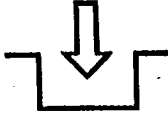
No.	Title	Symbol	Remark	Reference
01-27	Variability in steps		Linear operation. It is divided according to steps. When it is a rotary operation.	IEC/417-5181
01-28	Plus; positive polarity			IEC/417-5005
01-29	Minus; negative polarity			IEC/417-5006
01-30	Calibration			ISO/7000-0160
01-31	Lamp; lighting; illumination			IEC/417-5012
01-32	Indirect lighting			IEC/417-5320

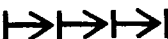
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No.	Title		Symbol	Remark	Reference
01-33	Low intensity lighting				IEC/417-5321
01-34	Temperature				ISO-7000-0034
01-35	Temperature	Decreasing			ISO/7000-0036
01-36		Increasing			ISO/7000-0035
01-37	Input			This indicates an input state.	IEC/417-5034
01-38	Output			This indicates an output state.	IEC/417-5035
01-39	Remote control			This indicates the selection of a remote or local control.	IEC/878-01-38

No.	Title	Symbol	Remark	Reference
01-40	Local control		This indicates the selection of a remote or local control.	IEC/878-01-39
01-41	Clock; time switch; timer			IEC/417-5184
01-42	Bell		Including buzzer.	IEC/417-5013
01-43	Zero point adjustment		The graphical symbol of the resetting is given as follows: 	ISO/7000-DAD.10540
01-44	Setting to central position			ISO/7000-DAD.10514
01-45	Hand-held switch			IEC/417-5322
01-46	Manual control			ISO/7000-0096

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No.	Title	Symbol	Remark	Reference
01-47	Automatic control (closed loop)		The automatic control of a closed loop.	ISO/7000-0017
01-48	Engaging (mechanical activation)			ISO/7000-0022
01-49	Disengaging (mechanical deactivation)			ISO/7000-0023
01-50	Lock or tighten		This indicates a locked state or tightened state.	ISO/7000-0018
01-51	Unlock, unclamp		This indicates an unlocked state or unclamped state.	ISO/7000-0019
01-52	Movement in one direction			IEC/417-5022
01-53	Movement in both directions			IEC/417-5023
01-54	Movement to and from the operator		This indicates the movement to and from the operator.	IEC/878-01-53

No.	Title	Symbol	Remark	Reference
01-55	Limited rectilinear motion		Take attention on the mixed use with 05-25.	ISO/7000-0001
01-56	Rectilinear repeated positioning		This indicates a rectilinear repeated positioning.	ISO/7000-0254
01-57	Movement in direction of arrow from a pre-set position		Take attention on the mixed use with 05-26.	ISO/7000-DAD.10521
01-58	U-turn of movement (from a pre-set position)		This indicates a U-turn movement from a pre-set position.	ISO/7000-DAD.10539
01-59	Rotation in two directions		This indicates the rotary motion in two directions.	ISO/7000-0005
01-60	Slow run			IEC/417-5124
01-61	Normal run			IEC/417-5107