

INSTRUMENT & CONTROL DEVICE SYMBOLS

02-W

MAIN CONTROL ROOM PANEL MOUNTED DEVICE

PANEL NUMBER (TYPICAL)

AUXILIARY CONTROL EQUIPMENT ROOM & COMPUTER CABINET MOUNTED DEVICES

PANEL NUMBER (TYPICAL)

LOCALLY MOUNTED DEVICE NOT ON INSTRUMENT PANEL OR ASSEMBLY

SET POINT DATA (TYPICAL)

DESIGNATES INSTRUMENT IS FURNISHED WITH ASSOCIATED EQUIPMENT

LOCAL INSTRUMENT PANEL MOUNTED DEVICE

PANEL NUMBER (TYPICAL)

ALTERNATE (NOTE 1)

COMPUTER INPUT-OUTPUT SIGNAL

MULTIPLE DEVICES IN ONE ASSEMBLY (E.G. TEMPERATURE ELEMENT IN THERMOWELL)

MODULATING (NOT ON-OFF) CONTROL SYSTEMS

SUPPLIER'S ASSEMBLIES AND/OR CABINETS (DETAILS PER MANUFACTURER'S FUNCTIONAL CONTROL SYSTEM DIAGRAMS)

ABBREVIATED DESCRIPTION OF THE APPLICABLE CONTROL SYSTEM (WHEN REQUIRED FOR CLARITY)

COMPUTER INPUT-OUTPUT SIGNAL NUMBER

IA ANALOG TYPE INPUT

IC CONTACT CLOSURE INPUT

IP PULSE TYPE INPUT

OA ANALOG TYPE OUTPUT

OC CONTACT CLOSURE OUTPUT

OP PULSE TYPE OUTPUT

IDENTIFICATION NUMBER

ANNUNCIATOR ALARM IDENTIFICATION NUMBER

ALARM DESCRIPTION IN ACCORDANCE WITH THE INSTRUMENT TYPE CODES

ANNUNCIATOR SYSTEM ALARM IDENTIFICATION NUMBER

INSTRUMENT & CONTROL DEVICE NUMBERS (NOTE 1)

PLANT UNIT NUMBER

VARIABLE (MEASURED OR INITIATING)

INSTRUMENT FUNCTION

CLARIFYING SYMBOLS (IF REQUIRED) PER THE CLARIFYING SYMBOL LIST

LETTER SUFFIX WHEN REQUIRED TO IDENTIFY ADDITIONAL DEVICES IN SAME LOOP THAT PERFORM THE SAME FUNCTION

LOOP SYSTEM NUMBER

STANDARD PLANT SYSTEM IDENTIFICATION CODE (SEE P&ID INDEX SHEET)

CLARIFYING SYMBOL LIST

A	ANALOG SIGNAL	LP	LOW PASS
ADD	ADD	MAX	MAXIMUM
AVG	AVERAGE	MIN	MINIMUM
BI	BIAS	N ₂	NITROGEN
CO ₂	CARBON DIOXIDE	NA	SODIUM
D	DIGITAL	NAK	SODIUM POTASSIUM
DIFF	SUBTRACT	N ₂ H ₄	HYDRAZINE
DIR	DIRECT ACTING	O ₂	OXYGEN
FC	FAIL CLOSED	pH	pH ANALYSIS
FI	FAIL INTERMEDIATE	RES	RESET
FL	FAIL LOCKED	REV	REVERSE ACTING
FO	FAIL OPEN	SI	SILICA
H ₂	HYDROGEN	SM	SMOKE OR IONIZATION
HE	HELIUM	SP	SET POINT
HL	HIGH LIMIT	SQ. RT	SQUARE ROOT
HP	HIGH PASS	TURB	TURBIDITY
LL	LOW LIMIT	X	MULTIPLY

NOTE 1: IN CERTAIN CASES, VENDOR NUMBERS MAY BE USED IN LIEU OF THIS FORMAT. SEE P & ID INDEX SHEET FOR SUCH EXCEPTIONS.

INSTRUMENT TYPE CODES

FIRST LETTER

VARIABLE (MEASURED OR INITIATING)

A ANALYSIS

B BURNER-FLAME

C CONDUCTIVITY

D DENSITY

E VOLTAGE

F FLOW

H HAND (MANUAL)

I CURRENT (ELEC.)

J POWER (ELEC.)

K TIME

L LEVEL (LIQUID OR SOLID)

M MOISTURE (HUMIDITY)

N NEUTRON FLUX

P PRESSURE OR VACUUM

R RADIOACTIVITY

S SPEED OR FREQUENCY

T TEMPERATURE

U MULTIVARIABLE

V VIBRATION

W WEIGHT

X SPECIAL (REFER TO CLARIFYING SYMBOL)

Y STRAIN

Z POSITION

SECOND OR SUCCEEDING LETTERS

INSTRUMENT FUNCTION

A ALARM

AC ALARM CLOSED

AH ALARM HIGH

AL ALARM LOW

AO ALARM OPEN

C CONTROLLER (BLIND)

CK CONTROLLER & HAND/AUTO

DA DIFFERENTIAL ALARM

DC DIFFERENTIAL CONTROLLER

DI DIFFERENTIAL INDICATOR

DK DIFFERENTIAL CONTROL STATION

DR DIFFERENTIAL RECORDER

DS DIFFERENTIAL SWITCH

DT DIFFERENTIAL TRANSMITTER

DY DIFFERENTIAL RELAY

E PRIMARY ELEMENT

EW PRIMARY ELEMENT WELL

G GLASS

I INDICATOR

IC INDICATING CONTROLLER

IR INDICATING RECORDER

IS INDICATING SWITCH

IT INDICATING TRANSMITTER

IY INDICATING RELAY

JR MULTIPPOINT RECORDER

K CONTROL STATION-VARIABLE TYPE (HAND/HAND-AUTO) WITHOUT CONTROLLER

L LIGHT (PILOT)

Q INTEGRATOR

R RECORDER CONTINUOUS PEN

RC RECORDER CONTROLLER

S SWITCH

SC SWITCH - CLOSED DEVICE POSITION

SH SWITCH HIGH

SI SWITCH - INTERMEDIATE DEVICE POSITION

SL SWITCH LOW

SO SWITCH - OPEN DEVICE POSITION

SV SOLENOID VALVE (IN CONTROL LOOPS ONLY)

T TRANSMITTER

U MULTIFUNCTION

W WELL

X SPECIAL (REFER TO CLARIFYING SYMBOL LIST)

Y RELAY - SIGNAL CONVERTER, COMPUTING, ETC.

Z POWER POSITIONER / CONTROL DRIVE (EXCEPT VALVE MOUNTED)

CONTROL & INSTRUMENTATION FUNCTION SYMBOLS & CODES

FUNCTION SYMBOLS

ELECTRICAL SIGNAL BETWEEN LOCAL & MAIN CONTROL ROOM AREA FUNCTIONS

CONNECTIONS TO THE PROCESS FOR THE VARIABLE (TYPICAL)

PNEUMATIC SIGNAL BETWEEN LOCAL & MAIN CONTROL ROOM AREA FUNCTIONS

MAIN CONTROL ROOM AREA OR LOCAL FUNCTIONS (NOT BOTH)

PLANT COMPUTER FUNCTION

FUNCTION SYMBOL CODES

VARIABLE (MEASURED OR INITIATING)

LOCAL FUNCTIONS OF VARIABLE

CONTROL & INSTRUMENTATION DETAIL DRAWING NO.

DRAWING SHEET NO. & DETAIL NO.

CLARIFYING SYMBOL IF REQUIRED PER THE CLARIFYING SYMBOL LIST

MAIN CONTROL ROOM FUNCTIONS OR VARIABLE-MAIN CONTROL ROOM AREA (USED WHEN NO LOCAL VARIABLE EXISTS)

MULTIPLE VARIABLE WHEN APPLICABLE

DASH USED WITH MULTIPLE VARIABLES ONLY

ALTERNATE WHEN REQUIRED FOR MULTIPLE VARIABLES

VARIABLE & FUNCTION CODES

VARIABLES	FUNCTIONS
A ANALYSIS	AC ALARM CLOSED
B BURNER	AH ALARM HIGH
C CONDUCTIVITY	AL ALARM LOW
D DENSITY	AO ALARM OPEN
E VOLTAGE	C CONTROL (ANALOG)
F FLOW	D DIFFERENTIAL
H HAND (MANUAL)	E ELEMENT
I CURRENT (ELECTRICAL)	I INDICATE
J POWER (KW)	K CONTROL STATION - VARIABLE TYPE (HAND/HAND-AUTO)
K TIME	M MANUAL CONTROL SWITCH (USED WITH OTHER PROCESS VARIABLE)
L LEVEL (LIQUID OR SOLID)	Q INTEGRATE
M MOISTURE	R RECORD
N NEUTRON	S SWITCH
P PRESSURE	T TRANSMIT
R RADIOACTIVITY	U MULTIFUNCTION
S SPEED OR FREQUENCY	W WELL
T TEMPERATURE	X SPECIAL (REFER TO CLARIFYING SYMBOL LIST ABOVE)
U MULTIVARIABLE	Y RELAY (SIGNAL CONVERTER, COMPUTING, ETC.)
W WEIGHT	
X SPECIAL (REFER TO CLARIFYING SYMBOL)	
Y STRAIN	
Z POSITION	

DRAWING RELEASE RECORD

REV.	SPEC. NO.	DATE	DRAWN	CHECKED	ENGR. APPROVAL	DESCRIPTION	FILE
1	H-2255	3/9/75	Charles G. Gandy	John R. Gandy	R. Gandy	M-20 SHT 4 OF 5 WAS MF-270.10.1 SHT 3 OF 4	

FOR REFERENCE ONLY

SPEC. NO. H-2939

DATE RECD 02-12-81

P & ID STANDARD SYMBOLS DRAWING

DATE	APPROVED	STANDARD
3-12-73	Approved	MF-270.10.1 SH. 3 OF 4

P&ID INDEX & SYMBOLS

MR. H. ZIMMER NUCLEAR POWER STATION UNIT-1

THE CINCINNATI GAS & ELECTRIC COMPANY

COLUMBUS & SOUTHERN OHIO ELECTRIC COMPANY

THE DAYTON POWER AND LIGHT COMPANY

SARGENT & LUNDY

ENGINEERS

CHICAGO

DRAWING NO. M-20

SHEET 4 OF 4

RDS-PDR

810401 0268

