INSTRUMENT IDENTIFICATION

EXAMPLE SYMBOLS

FIRST LETTER(S) — BB
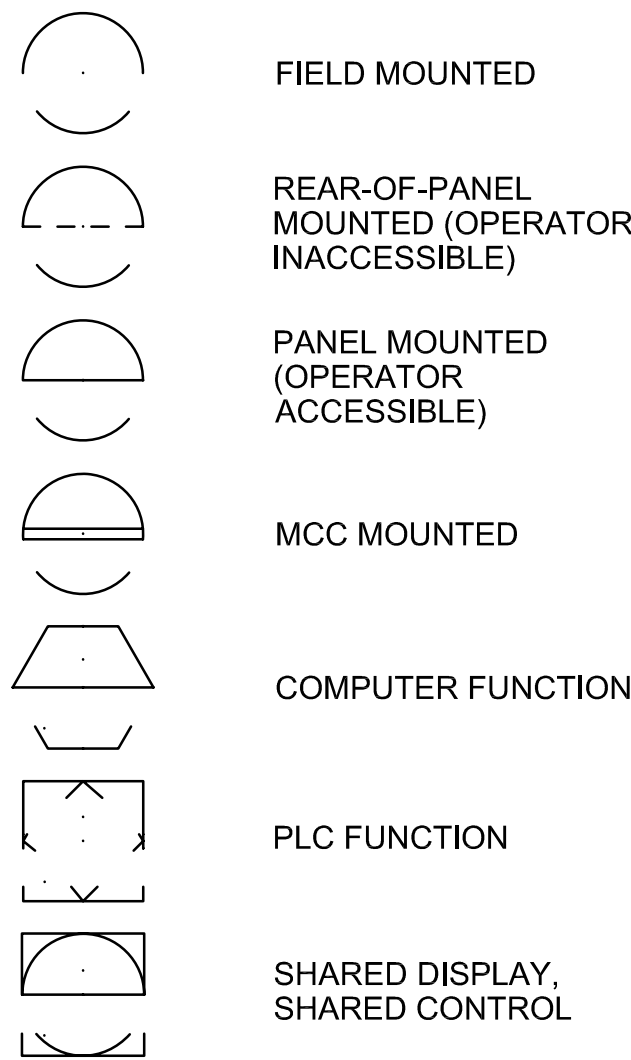SUCCEEDING LETTER(S) — FIT
UP-LL-UU
CLARIFYING ABBREVIATIONS
UNIT NUMBER
UNIT PROCESS NUMBER
LOOP NUMBER
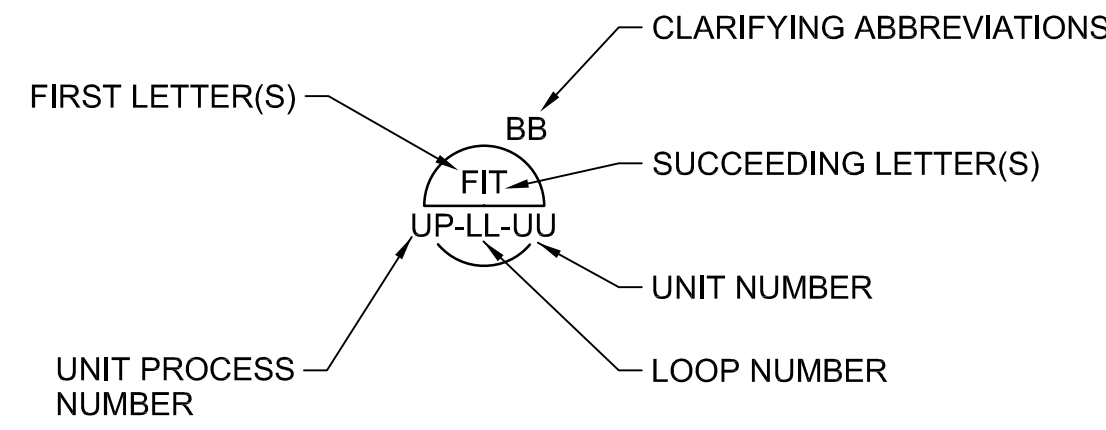
INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER PROCESS OR INITIATING VARIABLE	MODIFIER	SUCCEEDING-LETTERS READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

TABLE BASED ON THE INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
(*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

DIGITAL SYSTEM INTERFACES

▲ ANALOG INPUT
▼ ANALOG OUTPUT
△x DISCRETE INPUT
▽x DISCRETE OUTPUT

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS

FIELD MOUNTED
REAR-OF-PANEL MOUNTED (OPERATOR INACCESSIBLE)
PANEL MOUNTED (OPERATOR ACCESSIBLE)
MCC MOUNTED
COMPUTER FUNCTION
PLC FUNCTION
SHARED DISPLAY, SHARED CONTROL

TRANSDUCERS

A ANALOG
D DIGITAL
E VOLTAGE
F FREQUENCY
H HYDRAULIC
I CURRENT
P PNEUMATIC
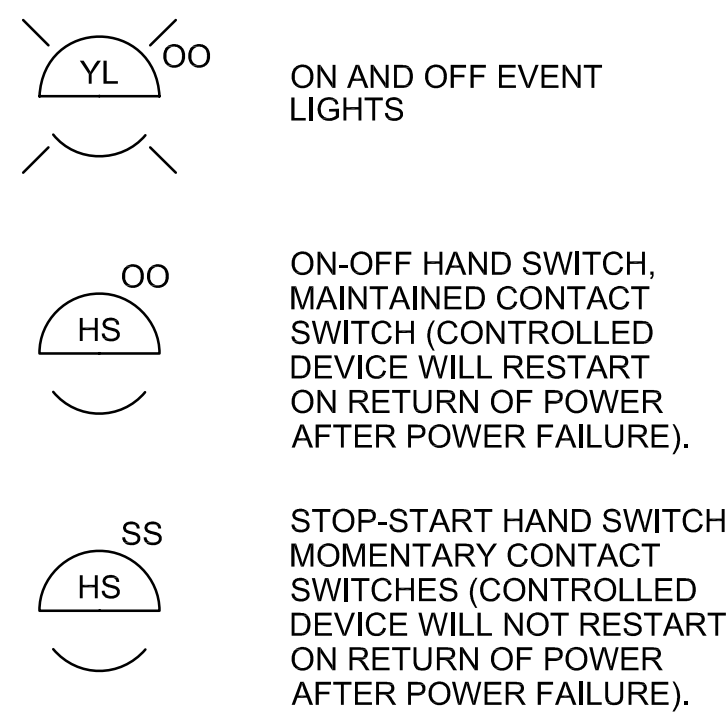PF PULSE FREQUENCY
PD PULSE DURATION
R RESISTANCE

EXAMPLE
I/P
FY — CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)
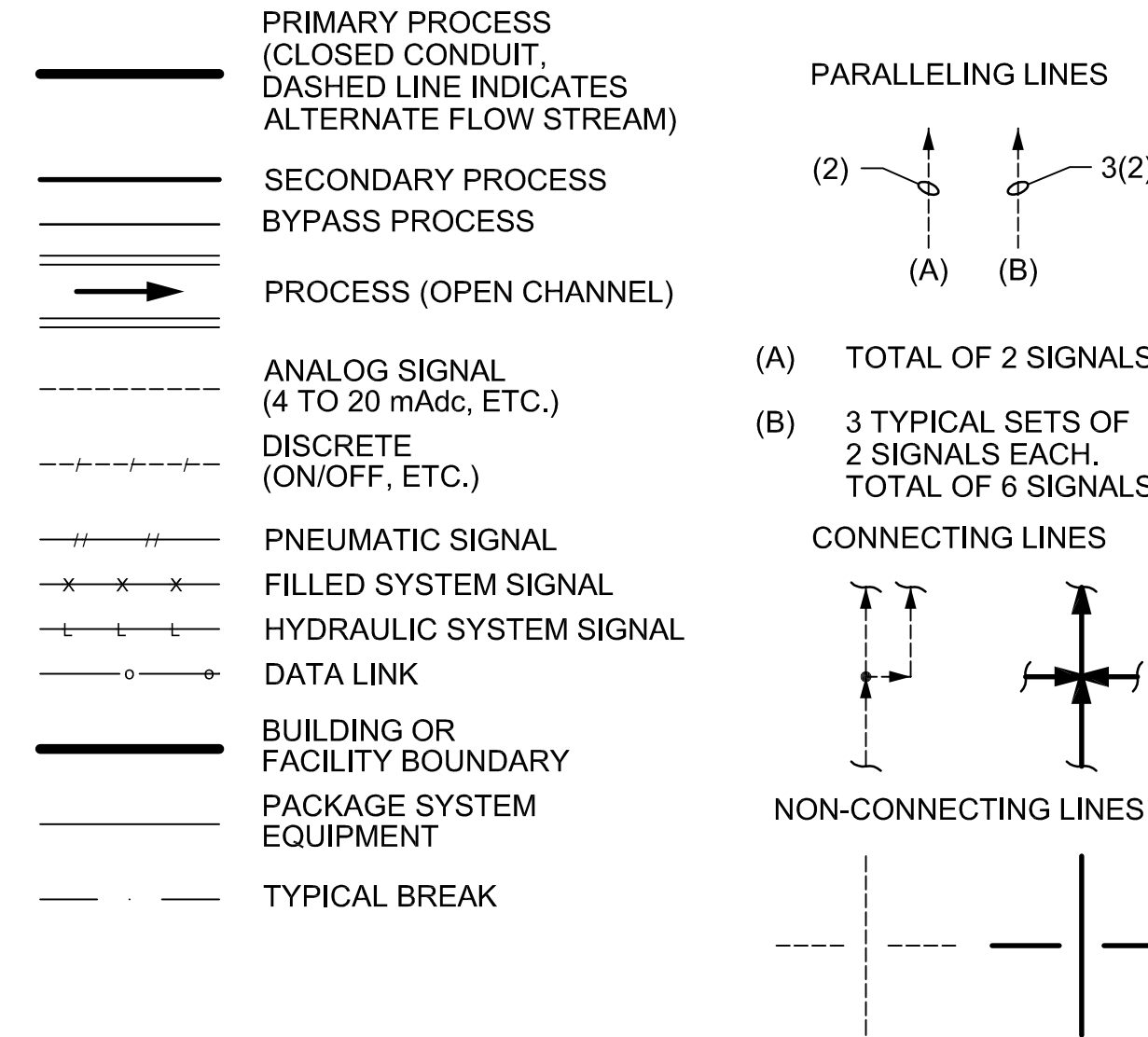
ACCESSORY DEVICES

A ALARM
C CONTROLLER
I INDICATOR
R RECORDER
S SWITCH
T TRANSMITTER
X UNCLASSIFIED

EXAMPLE
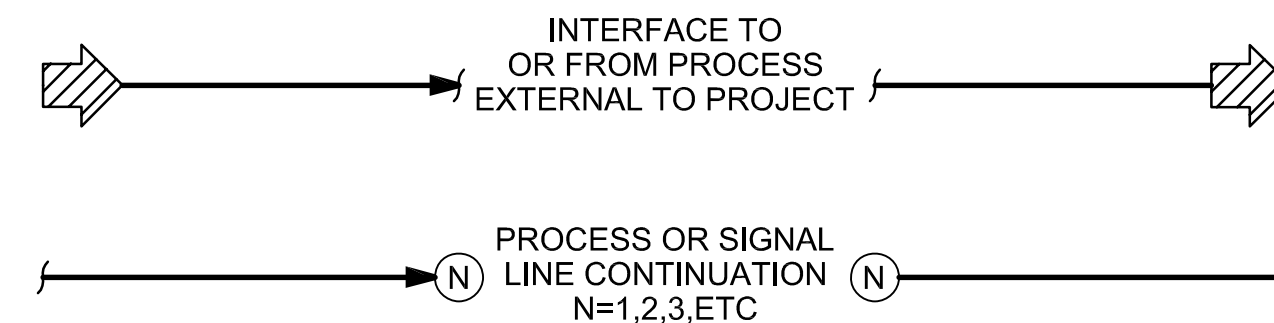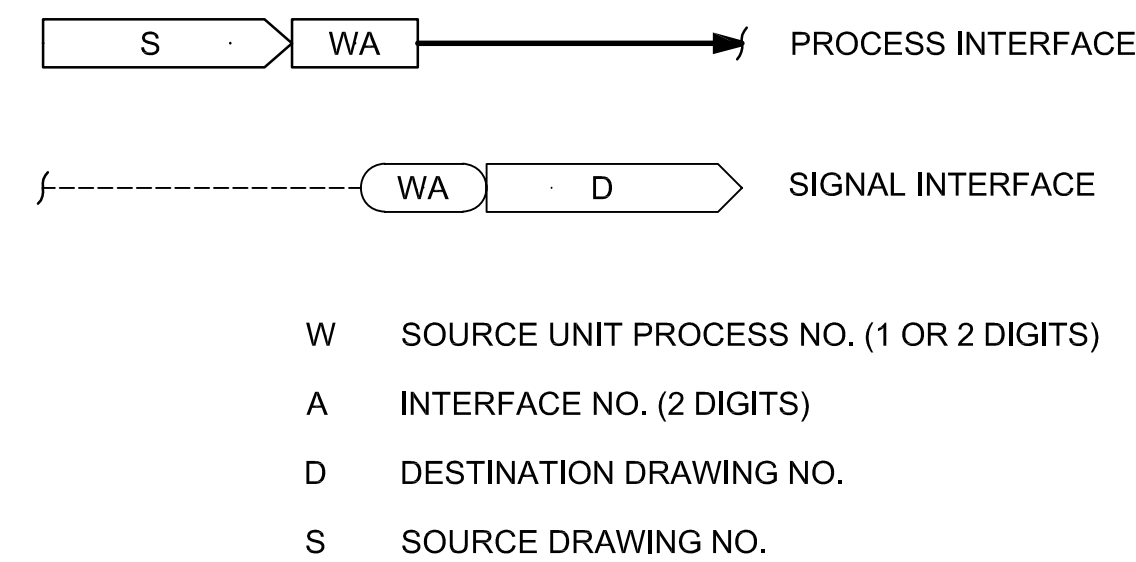FIT — TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT

SPECIAL CASES

YL / OO — ON AND OFF EVENT LIGHTS

HS / OO — ON-OFF HAND SWITCH, MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

HS / SS — STOP-START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).

LINE LEGEND

PRIMARY PROCESS (CLOSED CONDUIT, DASHED LINE INDICATES ALTERNATE FLOW STREAM)
SECONDARY PROCESS
BYPASS PROCESS
PROCESS (OPEN CHANNEL)
ANALOG SIGNAL (4 TO 20 mAdc, ETC.)
DISCRETE (ON/OFF, ETC.)
PNEUMATIC SIGNAL
FILLED SYSTEM SIGNAL
HYDRAULIC SYSTEM SIGNAL
DATA LINK
BUILDING OR FACILITY BOUNDARY
PACKAGE SYSTEM EQUIPMENT
TYPICAL BREAK

PARALLELING LINES
(2) 3(2)
(A) (B)
(A) TOTAL OF 2 SIGNALS
(B) 3 TYPICAL SETS OF 2 SIGNALS EACH. TOTAL OF 6 SIGNALS.
CONNECTING LINES
NON-CONNECTING LINES

INTERFACE SYMBOLS

S — WA — PROCESS INTERFACE
WA — D — SIGNAL INTERFACE

W SOURCE UNIT PROCESS NO. (1 OR 2 DIGITS)
A INTERFACE NO. (2 DIGITS)
D DESTINATION DRAWING NO.
S SOURCE DRAWING NO.

INTERFACE TO OR FROM PROCESS EXTERNAL TO PROJECT
PROCESS OR SIGNAL LINE CONTINUATION N=1,2,3,ETC

SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

D-W-X-Y

D	ARV	AIR RELEASE VALVE
	AVRV	AIR AND VACUUM RELEASE VALVE
	G	GATE
	M	MECHANICAL EQUIPMENT
	P	PUMP
	PCV	PRESSURE CONTROL VALVE
	PRV	PRESSURE REGULATING VALVE
	PSV	PRESSURE RELIEF VALVE
	T	TANK
W		UNIT PROCESS NUMBER
X		LOOP NUMBER
Y		UNIT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC ALTERNATING CURRENT
AM AUTO-MANUAL
CAM COMPUTER-AUTO-MANUAL
CCS CENTRAL CONTROL SYSTEM
Cl2 CHLORINE (TYPICAL; USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM COMPUTER-MANUAL
COD CHEMICAL OXYGEN DEMAND
CP-X CONTROL PANEL NO. X
DC DIRECT CURRENT
DCS DISTRIBUTED CONTROL SYSTEM
DCU DISTRIBUTED CONTROL UNIT
DO2 DISSOLVED OXYGEN
FOS FAST-OFF-SLOW
FOSA FAST-OFF-SLOW-AUTO
FOSR FAST-OFF-SLOW-REMOTE
FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X=PANEL NUMBER)
FR FORWARD-REVERSE
HOA HAND-OFF-AUTO
HOR HAND-OFF-REMOTE
ISR INTRINSICALLY SAFE RELAY
LEL LOWER EXPLOSIVE LIMIT
LOS LOCKOUT STOP
LR LOCAL-REMOTE
MA MANUAL-AUTO
MC MODULATE-CLOSE
MCC-X MOTOR CONTROL CENTER NO. X
MSC MANUFACTURER SUPPLIED CABLE
OC OPEN-CLOSE(D)
OCA OPEN-CLOSE-AUTO
OCR OPEN-CLOSE-REMOTE
OO ON-OFF
OOA ON-OFF-AUTO
OOR ON-OFF-REMOTE
ORP OXIDATION REDUCTION POTENTIAL
OSC OPEN-STOP-CLOSE
pH HYDROGEN ION CONCENTRATION
PLC PROGRAMMABLE LOGIC CONTROLLER
RIO REMOTE I/O UNIT
RM-X REMOTE MULTIPLEXING MODULE NO. X
RTU-X REMOTE TELEMETRY UNIT NO. X
SF SLOWER-FASTER
SS START-STOP
SSC SUPERVISORY SET POINT CONTROL
TOC2 TOTAL ORGANIC CARBON
TOD TOTAL OXYGEN DEMAND
TURB TURBIDITY
VHC VOLATILE HYDROCARBONS
VIBRATION
△ DIFFERENCE
Σ SUM
× MULTIPLY
÷ DIVIDE
F(X) CHARACTERIZED
Xⁿ RAISED TO THE Nth POWER
√ SQUARE ROOT
AVG AVERAGE
1:1 REPEAT OR BOOST
> SELECT HIGHEST SIGNAL
< SELECT LOWEST SIGNAL
} BIAS

GENERAL NOTES

1. COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.

2. COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (**) ARE TO BE PROVIDED UNDER DIVISION 16, ELECTRICAL.

3. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.