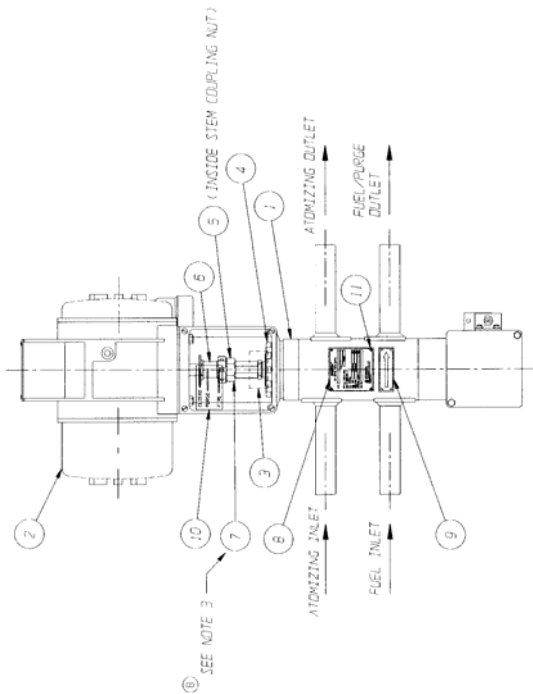
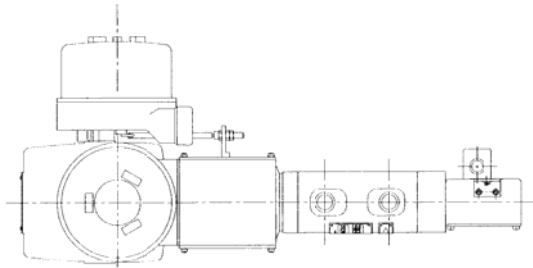


ITEM	DWG. NO.	PART NO.	QTY.	DESCRIPTION
1	03-001	-	1	VALVE BODY SUBASSEMBLY T1000
2	-	12-001-01	1	ACTUATOR ELECTRO-HYDRAULIC FAIL CLOSED 100V/120V 50/60 HZ
	-	12-001-02	1	ACTUATOR ELECTRO-HYDRAULIC FAIL CLOSED 200/220V 50/60 HZ
	-	12-002-01	1	ACTUATOR ELECTRO-HYDRAULIC LAST POSITION 100V/120V 50/60 HZ
	-	12-002-02	1	ACTUATOR ELECTRO-HYDRAULIC LAST POSITION 200/220V 50/60 HZ
3	117904	37200	1	VALVE PACKING TAG
4	-	95-013	1	WAVE LOCKWASH
5	-	11-041	1	STEM LOCKWASH NUT
6	-	-	1	STEM COUPLER
7	-	-	1	VALVE TAG WASHER
8	-	-	1	STEM TAG WASHER
9	90-005	90-005-02	1	FLINT TAG WASHER
10	90-002	90-002	1	POSITION DECAL
11	-	35-161	6	RIVET

* - INCLUDED WITH ACTUATOR



- NOTES:
- 1) USE PART NUMBER 90-001-02 FOR T1000 VALVES. USE PART NUMBER 90-012-02 FOR T1001 VALVES.
 - 2) CUSTOMER TO WIRE DIRECTLY TO OIL VALVE. PROOF OF CLOSURE SWITCH TERMINALS.
 - 3) LENGTH MUST BE 1.640/1.625. IF NOT MACHINED FROM HEX END.

THIS IS A FACTORY MUTUAL CONTROLLED DOCUMENT. CHANGES MUST BE APPROVED BY FM PRIOR TO IMPLEMENTING.

ECN# 4975

THIS DOCUMENT IS THE PROPERTY OF ITT ENGINEERED VALVES AND IS LOANED SUBJECT TO RETURN. IT IS ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR DISCLOSED IN WHOLE OR IN PART, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALES OF APPARATUS WITHOUT THE EXPRESS WRITTEN CONSENT OF ITT ENGINEERED VALVES.

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

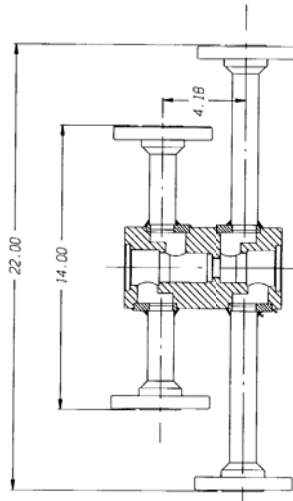
REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

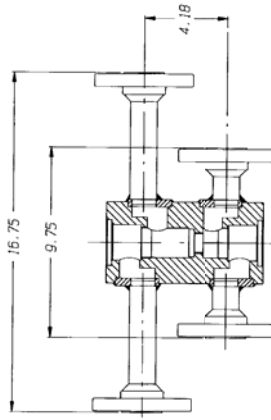
REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM	JM	REVISED TO ADD 117904
B	03/08/00	JM	JM	JM	REVISED TO ADD 117904

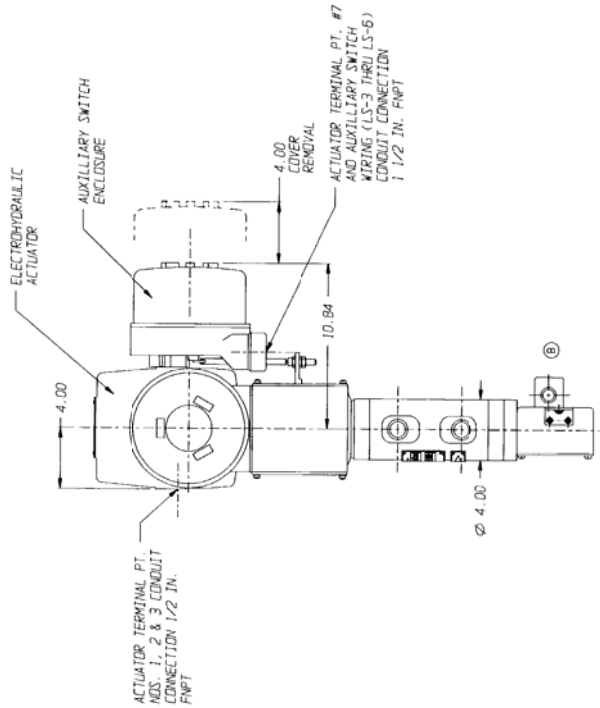
REV.	DATE	BY	CHKD	APP'D	DESCRIPTION
A	03/08/00	JM	JM		



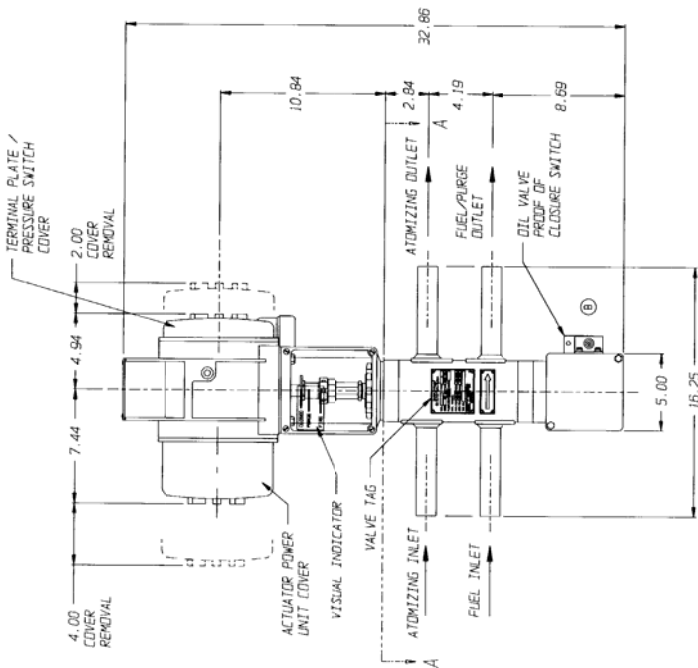
STANDARD
FLANGE ASSEMBLY
SCALE: 1:3
SECTION "A"- "A"
⑤



SPECIAL
FLANGE ASSEMBLY
SCALE: 1:3
SECTION "A"- "A"
⑤



- ⑤ NOTES:
- 1) SEE INSTRUCTION AND OPERATION MANUAL 10T1003 OR 10T1001 FOR OPERATING AND MAINTENANCE INSTRUCTIONS.
 - 2) DIMENSIONS ARE FOR REFERENCE ONLY.
 - 3) ALLOW 6.00 INCHES MINIMUM CLEARANCE AT TOP AND BOTTOM OF VALVE SEALS FOR DISASSEMBLY.
 - 4) VALVE SHOWN IS CONFIGURED FOR LEFT TO RIGHT FLOW. FOR RIGHT TO LEFT FLOW ROTATE THE INLET AND OUTLET PORTS 180° ABOUT VALVE LEVER LINE.
 - 5) END CONNECTIONS SHOWN ARE SPIGOT. DIMENSIONS ARE THE SAME FOR BUTTWELD AND SCREENED CONNECTIONS. SEE ORDER SPECIFICATION FOR END CONNECTIONS SUPPLIED.



THIS IS A FACTORY MUTUAL CONTROLLED DOCUMENT. CHANGES MUST BE APPROVED BY FM PRIOR TO IMPLEMENTING.

MR# -

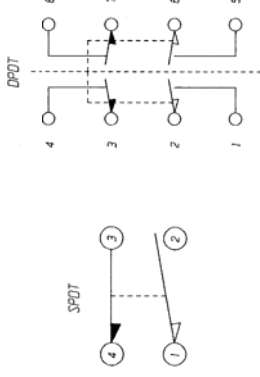
THIS DOCUMENT IS THE PROPERTY OF IIT ENGINEERED VALVES AND IS LOANED SUBJECT TO RETURN. IT IS ISSUED IN TRUST. COPIES AND SHALL NOT BE REPRODUCED, OR COPIED, OR DISCLOSED IN WHOLE OR IN PART, FOR USE AS THE BASIS FOR THE MANUFACTURE OR SALES OF APPARATUS WITHOUT THE EXPRESS WRITTEN CONSENT OF IIT ENGINEERED VALVES.

REV		DATE	BY	CHKD	APP'D	REVISIONS
1						
2						

SCALE	1:4
UNIT	INCHES
STANDARD	ASME Y14.5
FINISH	AS REQUIRED
WELDING	AS REQUIRED
DRILLING	AS REQUIRED
TURNING	AS REQUIRED
GRINDING	AS REQUIRED
THREADING	AS REQUIRED
COATING	AS REQUIRED
PACKAGING	AS REQUIRED
INSPECTION	AS REQUIRED
TESTING	AS REQUIRED
REWORK	AS REQUIRED
REVISIONS	AS REQUIRED

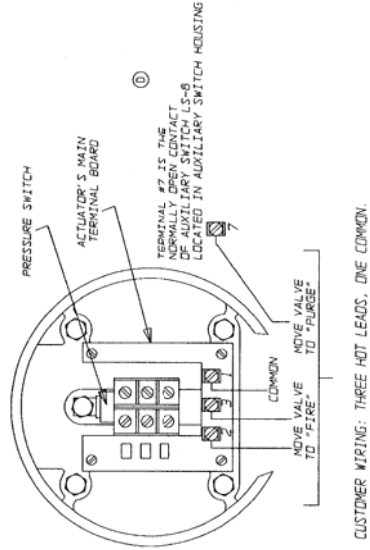
PART NO.	10T1003
DESCRIPTION	ENGINEERED VALVES
MANUFACTURER	IIT ENGINEERED VALVES
DATE	1988
REV	1
REV	2
REV	3
REV	4
REV	5
REV	6
REV	7
REV	8
REV	9
REV	10
REV	11
REV	12
REV	13
REV	14
REV	15
REV	16
REV	17
REV	18
REV	19
REV	20
REV	21
REV	22
REV	23
REV	24
REV	25
REV	26
REV	27
REV	28
REV	29
REV	30
REV	31
REV	32
REV	33
REV	34
REV	35
REV	36
REV	37
REV	38
REV	39
REV	40
REV	41
REV	42
REV	43
REV	44
REV	45
REV	46
REV	47
REV	48
REV	49
REV	50
REV	51
REV	52
REV	53
REV	54
REV	55
REV	56
REV	57
REV	58
REV	59
REV	60
REV	61
REV	62
REV	63
REV	64
REV	65
REV	66
REV	67
REV	68
REV	69
REV	70
REV	71
REV	72
REV	73
REV	74
REV	75
REV	76
REV	77
REV	78
REV	79
REV	80
REV	81
REV	82
REV	83
REV	84
REV	85
REV	86
REV	87
REV	88
REV	89
REV	90
REV	91
REV	92
REV	93
REV	94
REV	95
REV	96
REV	97
REV	98
REV	99
REV	100

① NOTE: SEE ORDER SPECIFICATION FOR MAIN VALVE, ACTUATOR AND ACCESSORIES/OPTIONS SPECIFICATIONS, AND CONTRACT DATA.



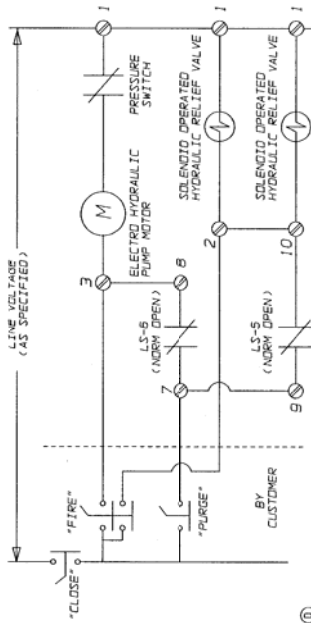
NOTE:
 1) OIL VALVE PROOF OF CLOSURE SWITCH IS LOCATED ON THE BOTTOM OF THE MAIN VALVE ASSEMBLY AND OPERATES DIRECTLY FROM THE MAIN OIL STEER.
 2) PROOF OF CLOSURE SWITCH CHANGES STATE PRIOR TO OIL VALVE OPENING OR CLOSING.
 3) CONTACTS SHOWN WITH OIL VALVE IN CLOSED POSITION.

OIL VALVE PROOF OF CLOSURE SWITCH WIRING



CUSTOMER WIRING: THREE HOT LEADS, ONE COMMON. DE-ENERGIZE ALL CIRCUITS TO CLOSE VALVE. WIRE SIZE: #14 ANG MINIMUM.

ACTUATOR WIRING



NOTE: ALL SWITCHES SHOWN WITH MAIN VALVE IN FULLY CLOSED POSITION. TERMINALS 1-3 ARE LOCATED ON ACTUATOR'S MAIN TERMINAL BOARD. TERMINALS 7-10 ARE LOCATED ON SWITCHES LS-6 & LS-5 IN AUXILIARY SWITCH HOUSING.

ELECTRICAL SCHEMATIC

SWITCH NO.	VALVE POSITION		FIRE
	CLOSED	PURGE	
LS-1			
LS-2			
LS-3			
LS-4			
LS-5*			
LS-6*			

① * CONTACTS SWITCH ACTUATED BY CAM (SWITCHES NORMALLY OPEN CONTACTS ARE MADE)

NOTE: GRAPH SHOWS SETTINGS FOR CAM-OPERATED SPOT AUXILIARY SWITCHES LS-1 THRU LS-6. SWITCHES ARE LOCATED IN AUXILIARY SWITCH HOUSING. SEE DIMENSIONAL DRAWING FOR LOCATION.
 * LS-5 AND LS-6 ARE FOR ACTUATION SYSTEM USE ONLY - NOT FOR CUSTOMER USE.

AUXILIARY SWITCH CAM SETTINGS

SWITCH NO.	LS-7 PROOF OF CLOSURE SWITCH		LS-8*	SPOT		7-B
	LS-2	LS-3		1-2	3-4	
VALVE IN CLOSED	N.O. COM	N.O. N.C.	N.O. COM	N.O. N.C.	N.O. N.C.	N.O. N.C.
VALVE IN PURGE	N.O. COM	N.O. N.C.	N.O. COM	N.O. N.C.	N.O. N.C.	N.O. N.C.
VALVE IN FIRE	N.O. COM	N.O. N.C.	N.O. COM	N.O. N.C.	N.O. N.C.	N.O. N.C.

② * LS-6 AND LS-5 ARE FOR ACTUATION SYSTEM USE ONLY.
 ③ NOTE: FOR "PURGE" INDICATION, WIRE NORMALLY OPEN CONTACTS OF LS-2 AND LS-3 IN SERIES.

SWITCH CONTACT LOGIC

THIS IS A FACTORY MUTUAL CONTROLLED DOCUMENT. CHANGES MUST BE APPROVED BY FM PRIOR TO IMPLEMENTING.

ECNH 7421

THIS DOCUMENT IS THE SOLE PROPERTY OF IIT INDUSTRIES, INC., OR ITS SUBSIDIARY, AND IS PROVIDED SUBJECT TO RETURN. IT IS ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED, OR COPIED, OR DISCLOSED IN WHOLE OR IN PART, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALES OF APPARATUS OR PARTS TO WHICH THE DOCUMENT RELATES, WITHOUT THE EXPRESS WRITTEN CONSENT OF IIT INDUSTRIES, INC., OR ITS SUBSIDIARY. THIS LEGEND SHALL BE MARKED ON ANY REPRODUCTION HEREOF, IN WHOLE OR IN PART. ALL RIGHTS TO THE INFORMATION AND DESIGN DISCLOSED HEREIN ARE RESERVED TO IIT INDUSTRIES, INC., OR ITS SUBSIDIARY.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES (MILLIMETERS IN PARENTHESES).

THIRD ANGLE PROJECTION

WIRING SCHEMATIC

REV. 1003 AND 1203

ITT Industries

Empire Valley

Lowell, MA USA

PATTERN NO. -

60-005

D

SHEET 1 OF 1