A	ACTUATOR OR AMPERE
AC	ALTERNATING CURRENT
AD	AUDIBLE DEVICE
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AF	AMPERAGE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AM	AMPERE METER
AR	ALARM RELAY
ATL	ACROSS THE LINE
ATS	AUTOMATIC TRANSFER SWITCH
BAT	BATTERY
BC	BYPASS CONTACTOR
BG	BREAK GLASS STATION
BM	PLC BUFFER MODULE
BS	BUS
BSD	BUS DETAIL
BYP	BYPASS
C	CONTACTOR
CB	CIRCUIT BREAKER
CE	CONNECTING ELEMENT
CKT	CIRCUIT
CMH	COMMUNICATIONS MANHOLE
CMS	COMBINATION MOTOR STARTER
COMM	COMMUNICATIONS
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SYSTEM
CSS	COMMON SIGNAL SOURCE
CT	CURRENT TRANSFORMER
CTSB	CURRENT TRANSFORMER SHORTING BLOCK
CTLR	CONTROLLER
CTPT	CURRENT / POTENTIAL TRANSFORMER
CU	COPPER CONDUCTOR
CV	CHECK VALVE
DC	DIRECT CURRENT
DI	DIGITAL INPUT
DISP	DISPLAY
DO	DIGITAL OUTPUT
DPST	DOUBLE POLE SINGLE THROW
DS	DOOR SWITCH
EF	EXHAUST FAN
EG	ELECTRICAL GROUND
ES	EMERGENCY STOP
ETPC	ETHERNET PATCH CABLE
ETM	ELAPSED TIME METER
FAN	FAN MOTOR
FCB	FEEDER CIRCUIT BREAKER
FU	FUSE
FUB	FUSE BLOCK
FIT	FLOW INDICATOR
FLUOR	FLUORESCENT
FM	FLOW METER
FOC	FIBER OPTIC CABLE
FOPC	FIBER OPTIC PATCH CABLE
FPPC	FLEXIBLE PORTABLE POWER CORD
FS	FLOAT SWITCH, FLOW SWITCH
FT	FLOW TRANSMITTER
FTB	FIELD TERMINAL BLOCK
FVNR	FULL VOLTAGE NON-REVERSING STARTER
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
GND	GROUND
GRB	GROUNDING BAR
GRT	GROUNDING TERMINAL
HMI	HUMAN MACHINE INTERFACE
HOA	HAND / OFF / AUTO
HWD	HARDWARE (I.E. BOLTS,NUTS, WASHERS)
I & C	INSTRUMENTATION AND CONTROL
IC	INTERLOCK CONTACTOR
IEG	PROFINET TO PROFIBUS DP GATEWAY
IEPC	INDUSTRIAL ETHERNET PATCH CORD
IES	INDUSTRIAL ETHERNET SWITCH
ILW	INDUCTANCE LOOP WIRING
IN	INPUT
INST	INSTANTANEOUS
INT	INTERFACE MODULE
K	KEY INTERLOCK
KK	KIRK KEY INTERLOCK

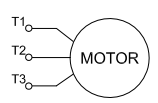
WIRING GUIDE:

14 RD 123

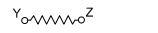
- 14 — WIRE NUMBER
- RD — WIRE COLOR
- 123 — WIRE GAUGE IN AWG

COO COLOR ABBREVIATIONS	
AQ = AQUA	PL = PURPLE
BK = BLACK	RD = RED
BL = BLUE	RS = ROSE
BN & BR = BROWN	SH = SHIELD BARE
CL = CLEAR	SL = SLATE
GN = GREEN	VT = VIOLET
GY = GRAY	WT = WHITE
OR = ORANGE	YL = YELLOW
STRIPED CONDUCTOR = CONDUCTOR COLOR / STRIPE COLOR	

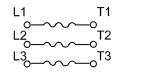
KIAC	THOUSAND INTERRUPTING AMPERAGE CAPACITY
L	LINE SUPPLY
LIT	LEVEL INDICATING TRANSMITTER
LIU	FIBER OPTIC LIGHT INTERFACE UNIT
LOR	LOCAL OFF REMOTE
LPB	LIGHTED PUSH BUTTON OPERATOR
LS	LIMIT SWITCH / LEVEL SWITCH
LSSW	LIGHTED SELECTOR SWITCH
LTG	LIGHTING
M	MAGNETIC CONTACTOR COIL OR MOTOR
mA	MILLIAMPS
MC	MOTOR CONTACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUG ONLY
MOV	MOTOR OPERATED VALVE
MPR	MOTOR PROTECTION RELAY
MPZ	MINI POWER ZONE
MS	MOTOR STARTER
MTB	MOTOR TERMINAL BLOCK
MTR	MOTOR
MTS	MOTOR TEMPERATURE SENSOR
N	NEUTRAL GROUNDED SUPPLY
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NP	NAME PLATE
NRMS	NON REVERSING MOTOR STARTER
NTS	NOT TO SCALE
OL	OVERLOAD RELAY
OLM	OPTICAL LINK MODULE
OPTI	OPTICAL TRANSCEIVER
OUTPUT	OUTPUT
P	POLE
PB	PUSH BUTTON
PBC	PROFIBUS BUS CONNECTOR
PC	PHOTOCELL
PDB	POWER DISTRIBUTION BLOCK
PDP	PROFIBUS DP
PE	POTENTIAL EARTH
PFT	PROFIBUS TERMINATOR
PH	PHASE
PHM	PHASE MONITOR
PL	PANEL LIGHT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	POWER METER OR MODULE
PN	PROFINET
PMH	POWER MANHOLE
PPR	PUMP PROTECTION RELAY
PR	PAIR
PRS	PROXIMITY SENSOR
PS	PRESSURE SWITCH
PST	POLES SINGLE THROW
PSL	POWER SUPPLY
PT	POTENTIAL TRANSFORMER
REAC	REACTOR DEVICE
REC	RECEPTACLE
RES	RESISTOR
RTU	REMOTE TELEMETRY UNIT
SCH	SCHEDULE
SCTRL	SPEED CONTROL DEVICE
SH	SPACE HEATER
SIMO	SIMOCODE CONTROL MODULE
SL	STACK LIGHT INDICATOR
SPD	SURGE PROTECTION DEVICE
SR	START RELAY
SSF	SOLID STATE FLASHER MODULE
SSM	SIGNAL SELECTOR MODULE
SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
SV	SOLENOID VALVE
SW	SWITCH
SSW	SELECTOR SWITCH
T	TRANSFORMER
TH	THERMOSTAT
TB	TERMINAL BOARD
TDR	TIME DELAY RELAY
TP	TEST POINT
TS	THERMAL SWITCH
TSP	TWISTED SHIELDED PAIR
OVR	OVER VOLTAGE RELAY
UPS	UNINTERRUPTIBLE POWER SUPPLY
UVR	UNDER VOLTAGE RELAY
V	VOLTMETER, VOLT
VC	VFD CONTACTOR
VD	VISUAL DEVICE
VFD	VARIABLE FREQUENCY DRIVE
VS	VIBRATION SWITCH
WP	WEATHERPROOF
WW	WET WELL
WCH	WALL-MOUNTABLE CONNECTOR HOUSING
WIC	WALL MOUNTABLE INTERCONNECT CENTER
XFMR	TRANSFORMER



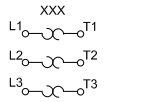
XXX VAC
XX HP
XX AFLC AC MOTOR
XPH, 60 Hz
XXXX RPM



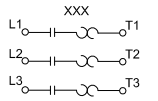
SPACE HEATER



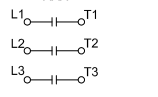
LINE OR LOAD REACTOR



OVERLOAD RELAY HEATER UNIT
OVERLOAD RELAY ID = XXX



3 PHASE MOTOR STARTER
MOTOR STARTER ID = XXX

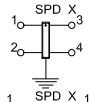


ACROSS THE LINE CONTACTOR
CONTACTOR ID = XXX

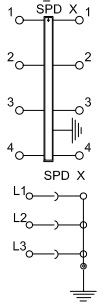
CIRCUIT BREAKER
AMPERE SENSOR (AS) = XXX
AMPERE FRAME (AF) = YYY
CIRCUIT BREAKER ID = Z

FUSE, X=SIZE RATING OF FUSE

SINGLE PHASE 1 POLE SPD
ID = X

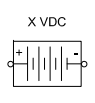


SINGLE PHASE 2 POLE SPD
ID = X



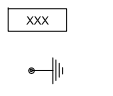
PLUGGABLE DIN MOUNTED
SPD TERMINAL BLOCK

ID = X



3 PHASE SURGE PROTECTOR DEVICE

ID = X



BATTERY
BATTERY VOLTAGE = X VDC

TERMINAL POINT X=ID

GROUND

GROUND ROD

KIRK KEYED CIRCUIT BREAKER INTERLOCK

GROUND ROD TEST STATION

FIELD WIRING

PANEL WIRING

FLOW SWITCH NORMALLY OPEN
X = TERM ID

FLOW SWITCH NORMALLY CLOSED
X = TERM ID

LEVEL SWITCH NORMALLY OPEN
X = TERM ID

LEVEL SWITCH NORMALLY CLOSED
X = TERM ID

PRESSURE SWITCH NORMALLY OPEN
X = TERM ID

PRESSURE SWITCH NORMALLY CLOSED
X = TERM ID

LIMIT SWITCH NORMALLY OPEN
Y, Z= TERM ID

LIMIT SWITCH NORMALLY CLOSED
Y, Z= TERM ID

MOTOR TEMPERATURE SENSOR (N.C.)
BREAK ON TEMPERATURE RISE
Y, Z= TERM ID

MOTOR TEMPERATURE SENSOR (N.O.)
MAKE ON TEMPERATURE RISE
Y Z= TERM ID

SWITCH Y, Z = TERM. ID
X=ID

PUSH-BUTTON SWITCH, MOMENTARY CONTACT,
NORMALLY OPEN, X =TERM. ID

PUSH-BUTTON SWITCH, MOMENTARY CONTACT,
NORMALLY CLOSED, X=TERM. ID

REMOTE DEVICE Y, Z= TERMINAL ID
NORMALLY OPEN
X= CONTROL DEVICE ID

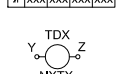
REMOTE DEVICE Y, Z= TERMINAL ID
NORMALLY CLOSED
X= CONTROL DEVICE ID

INDICATING LIGHT - "X" INDICATES COLOR
Y, Z= TERMINAL ID
B=BLUE= IDLE, MOTOR NOT RUNNING,VALVE CLOSED
R=RED= FAIL, ALARM, RESET NEEDED
G=GREEN= PUMP RUNNING, VALVE CLOSED

RED LIGHTED RESET PUSH BUTTON
X=ID

CONTROL RELAY X= ID

CR-Y= CONTROL RELAY ID
CONTROL RELAY CONTACT LOCATION



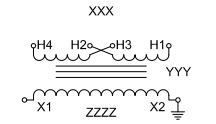
TIME DELAY RELAY, X=SEQUENTIAL NUMBER Y, Z= TERM ID

NXTX =
- NOTC=NORMALLY OPEN TIMED CLOSED
- NOTO=NORMALLY OPEN TIMED OPEN AFTER CLOSE
- NCTO=NORMALLY CLOSED TIMED OPEN
- NCTC=NORMALLY CLOSED TIMED CLOSED AFTER OPEN

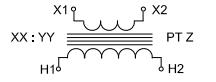
RESISTOR, X= OHMS, Y= WATTAGE, X = ID

ELECTRONIC HOUR METER

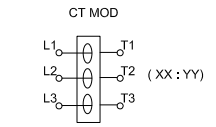
GROUND MODULAR TERMINAL BLOCK



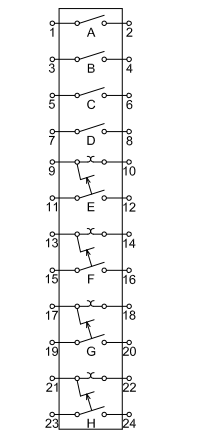
CONTROL TRANSFORMER
X=PRIMARY VOLTAGE
Y=VA RATING
Z=SECONDARY VOLTAGE



POTENTIAL TRANSFORMER
VOLTAGE RATIO INDICATED (XX : YY)
PT ID = Z



CURRENT TRANSFORMER MODULE
AMPERE RANGE OR AMPRERE RATIO INDICATED (XX : YY)

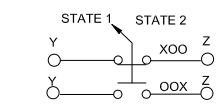


METERING 12 POLE SHORTING / TEST BLOCK (4 PT & 4 CT)

MODULE LOCATION GUIDE

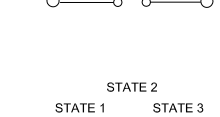
RX : SX

- R — MODULE RAIL (X) NUMBER
- S — MODULE SLOT (X) NUMBER



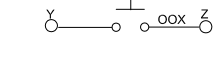
2 POS. SELECTOR SWITCH: MAINTAINED CONTACT WITH CONTACT POSITION INDICATED, CHART IDENTIFIES OPERATION

STATE POSITIONS				
CKT.	1		2	X - CLOSED CONTACT
1	X		O	O - OPEN CONTACT
2	O		X	
				Y Z= TERM ID



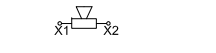
3 POS. SELECTOR SWITCH: MAINTAINED CONTACT WITH CONTACT POSITION INDICATED, CHART IDENTIFIES OPERATION

STATE POSITIONS				
CKT.	1	2	3	X - CLOSED CONTACT
1	X	O	O	O - OPEN CONTACT
2	O	O	X	
				Y Z= TERM ID

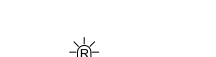


AUDIBLE DEVICE
X=ID

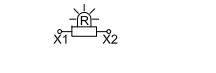
VISUAL DEVICE
X=ID
R= LENS COLOR



CABINET FAN



RTD SENSOR
X,Y,Z= TERM ID



SOLENOID COIL

TERMINAL BLOCK GUIDE

XX : XX

- XX — TERMINAL BLOCK OR DEVICE ID
- XX — TERMINAL BLOCK TERMINAL NUMBER

(i.e. LINE CIRCUIT 1000= SHEET 210, LINE 00)

LINE CIRCUIT LOCATOR GUIDE

XX XX = (XXXX)

- XX — LINE NUMBER LAST TWO DIGITS
- XX — SHEET NUMBER LAST TWO DIGITS

(i.e. LINE CIRCUIT 1000= SHEET 210, LINE 00)

MODULE LOCATION GUIDE

RX : SX

- R — MODULE RAIL (X) NUMBER
- S — MODULE SLOT (X) NUMBER

CATEGORY: WW	-	REVISIONS AS PER MEETING	10-04-2013	JG
SCALE: N.T.S.	-	ADDED SSM	1-27-2015	JG
DRAWN BY: JG				
APPROVED BY: WW				
	NO	REVISION	DATE	BY

CITY OF ORLANDO, FLORIDA — THE CITY BEAUTIFUL

WASTEWATER DIVISION,
INDUSTRIAL AUTOMATION GROUP

CITY OF
ORLANDO, FLORIDA

TITLE:

LIFT STATIONS STANDARDS
ABBREVIATIONS AND SYMBOLS LEGEND

SHEET
110