A1 SIZE – 594mm x 841mm

DISCRETE INPUT FUNCTIONAL SIGNAL DESIGNATIONS

SIGNAL	DESCRIPTION
.Auto	AUTO
.BattNorm	BATTERY OK
.Byp	BYPASS
.BypNorm	BYPASS IN NORMAL POSITION
.Comp	COMPUTER
.Crossover	IN CROSSOVER MODE
.Fail	FAILED
.Flt	FAULTED
.FuelCtlRelay	FUEL CONTROL RELAY
.Hand	HAND
.HS_*	SIGNAL FROM HAND SWITCH INTEGRATED INTO EQUIPMENT
.IgnitionAlarm	IGNITION ALARM
.Init	INITIATE
.LineOK	LINE INPUT OK
.Loc	LOCAL
.Maint	MAINTENANCE
.Man	MANUAL
.Occ	OCCUPIED
.Off	OFF
.Pulse_F	PULSE INPUT (FLOW)
.Rdy	VFD/MOTOR STARTER READY
.Rem	REMOTE
.Rst	RESET
.Run	MOTOR RUNNING
.Start	START
.StatusOK	STATUS OK
.Stop	STOP
.Trip	TRIP

DISCRETE OUTPUT FUNCTIONAL SIGNAL DESIGNATIONS

SIGNAL	DESCRIPTION
.CmdA	ANALYSIS COMMAND
.CmdCls	CLOSE COMMAND
.CmdCrossover	CROSSOVER COMMAND
.CmdEmergCls	EMERGENCY CLOSE COMMAND
.CmdF	FLOW COMMAND
.CmdEnb	ENABLE COMMAND
.CmdEngage	ENGAGE COMMAND
.CmdDisengage	DISENGAGE COMMAND
.CmdIdle	IDLE COMMAND
.CmdMinFuel	MINIMUM FUEL COMMAND
.CmdOpn	OPEN COMMAND
.CmdRemRefSel	REMOTE REFERENCE SELECT COMMAND
.CmdRst	FAULT RESET COMMAND
.CmdRun	RUN COMMAND
.CmdRunFast	RUN FAST COMMAND
.CmdRunSlow	RUN SLOW COMMAND
.CmdSlow	SLOW OPERATE COMMAND
.CmdSpdOvrde	SPEED OVERIDE COMMAND

NOTES FOR FUNCTIONAL SIGNAL DESIGNATION TABLES:

1. THESE NON–ISA DESIGNATIONS MAY BE COMBINED WITH ISA DESIGNATIONS PROVIDED THEY ARE CONNECTED VIA AN UNDERSCORE. FOR EXAMPLE, HS_Rem REPRESENTS THE SIGNAL FROM THE REMOTE POSITION OF A NON–IDENTIFIED HAND SWITCH ON A PIECE OF EQUIPMENT.

EQUIPMENT FUNCTIONAL DESIGNATIONS ELECTRICAL, MECHANICAL AND PROCESS EQUIPMENT

IDENTIFIER	DEFINITION	NOTES
AD	AIR DRYER	
AF	AERATION FAN	
AG	AGITATOR	
AHU	AIR HANDLING UNIT	INCLUDES MAKE–UP AIR UNIT
ANT	ANTENNA	
B	BLOWER	
BAT	BATTERY	
BC	BATTERY CHARGER	
BD	BALANCE DAMPER	
BFP	BACK FLOW PREVENTOR	
BLR	BOILER	
CAL	CALIBRATION COLUMN	
CC	COOLING COIL	
CDR	CONDENSOR	
CHLR	CHILLER	
CMP	COMPRESSOR	
CNV	CONVEYOR	
CP	CONTROL PANEL	
CT	COOLING TOWER	
CU	CONDENSING UNIT	
CV	CHECK VALVE	
EF	EXHAUST FAN	
F	FAN – GENERAL	
FA	FLAME ARRESTOR	
FACP	FIRE ALARM CONTROL PANEL	
FC	FAN COIL	
FD	FIRE DAMPER	UTILIZE SAME EQUIPMENT NUMBER AS AIR HANDLER
FDR	FEEDER	EXAMPLES SCREW FEEDER, CHLORINATOR, GLYCOL MAKE–UP UNIT
FIL	FILTER	
GR	GRILLE – GENERAL	
GRD	GRILLE – DIFFUSER	
HTR	HEATER	GENERAL HEATERS, RADIANT HEATERS, ETC.
HC	HEATING COIL	
HCE	HEATING COIL, ELECTRIC	
HE	HEAT EXCHANGER	
HP	HEAT PUMP	
HRC	HEAT RECOVERY COIL	
HUM	HUMIDIFIER	
HV	HAND/MANUAL VALVE	
INJ	INJECTOR	
LCP	LOCAL CONTROL PANEL	
MCC	MOTOR CONTROL CENTRE	
MXR	MIXER	
P	PUMP	
PLC	PROGRAMMABLE LOGIC CONTROLLER	
R	REACTOR	
S	SKID PACKAGE	
SA	SAMPLER	
SCBR	SCRUBBER	
SCP	SECURITY CONTROL PANEL	
SF	SUPPLY FAN	
SL	STOP LOGS	
STR	STRAINER	
TK	TANK	
TU	TERMINAL UNIT (HVAC)	INCLUDES CAV/VAV/DUAL DUCT BOXES
UH	UNIT HEATER	
UPS	UNINTERRUPTIBLE POWER SUPPLY	
UVR	ULTRA–VIOLET (UV) REACTOR	
V	VESSEL, PRESSURE VESSEL	E.G. AIR RECEIVER, GLYCOL EXPANSION TANK
VFD	VARIABLE FREQUENCY DRIVE	
W	WEIR	

PROCESS AREA IDENTIFIERS

IDENTIFIER	DEFINITION
A	GENERAL OR PROCESS AREA IS NOT APPLICABLE
C	CHLORINE BUILDING/AREA
D	DECHLORINATION BUILDING
E	ENGINE SHED
H	ELECTRICAL SHED
G	GATEHOUSE
P	PUMPHOUSE (INCLUDING ELECTRICAL & CONTROL ROOMS)
R	RESIDENCES
S	STAFF HOUSES

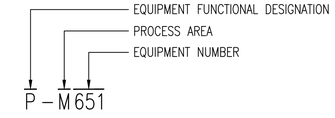
FLUID COMMODITY CODES

IDENTIFIER	DEFINITION	IDENTIFIER	DEFINITION
ALP	AIR, LOW PRESSURE	GS	GLYCOL SUPPLY
CA	COMPRESSED AIR	HCO	HYDRAULIC OIL
CDR	CONDENSER WATER RETURN	HFS	HYDROFLUOSILICIC ACID
CDS	CONDENSER WATER SUPPLY	HWR	HOT WATER RETURN
CHR	CHILLED WATER RETURN	HWS	HOT WATER SUPPLY
CHS	CHILLED WATER SUPPLY	IAS	INSTRUMENT AIR SUPPLY
CLS	CHLORINE SOLUTION	LGO	LUBRICATING OIL
CL2	CHLORINE	LOX	LIQUID OXYGEN
CON	CONDENSATE	LPS	LOW PRESSURE STEAM
CWR	COOLING WATER RETURN	NG	NATURAL GAS
CWS	COOLING WATER SUPPLY	PHS	PHOSPHORIC ACID
D	DRAIN	PW	POTABLE WATER
DCW	DOMESTIC COLD WATER	R	REFRIGERANT
DD	DEACON EFFLUENT	RW	RAW WATER
DHW	DOMESTIC HOT WATER	SAM	SAMPLE LINE
DS	DEACON SUCTION	SW	SEAL WATER
DU	DEACON UV	TRW	TREATED WATER
EE	ENGINE EXHAUST	VAC	VACUUM
ES	ELECTRICAL SUPPLY	VTA	VENT TO ATMOSPHERE
GR	GLYCOL RETURN		

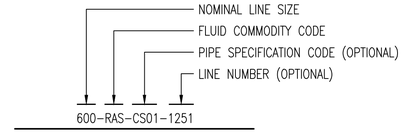
IMPERIAL PIPE SIZE CHART (METRIC EQUIVALENT)

IN	MM	IN	MM
1/8	3	14	350
1/4	6	16	400
3/8	10	18	450
1/2	12	20	500
3/4	20	22	550
1	25	24	600
1 1/4	32	26	650
1 1/2	38	28	700
2	50	30	750
2 1/2	65	32	800
3	75	34	850
3 1/2	90	36	900
4	100	38	950
4 1/2	112	40	1000
5	125	42	1050
6	150	44	1100
7	175	46	1150
8	200	48	1200
9	225	50	1250
10	250	52	1300
11	275	54	1350
12	300		

EQUIPMENT IDENTIFICATION



PROCESS LINE DESIGNATION



NOTES FOR PROCESS LINE DESIGNATION:

1. FOR THE PIPE SPECIFICATION CODE, IF THE PIPE MATERIAL IS KNOWN, BUT THE SPEC CODE NUMBER IS UNKNOWN, THE PLACEHOLDER SPEC CODE 01 MAY BE USED.

NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR CITY USE	2013/11/29	EFB	TMC

SNC·LAVALIN

SNC–LAVALIN INC.
148 Nature Park Way
Winnipeg, MB, Canada R3P 0X7
204–786–8080

DESIGNED BY: E. BOHNCKE	CHECKED BY: T. CHURCH
DRAWN BY: S. FUNK	APPROVED BY: E. RYCZKOWSKI
SCALE: NTS	RELEASED FOR CONSTRUCTION BY:
DATE: 2013/03/21	DATE:
CONSULTANT NO.: 611003–0000–49DD	

ENGINEER'S SEAL

Winnipeg

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SHOAL LAKE INTAKE & AQUEDUCT

PROCESS AND INSTRUMENTATION DIAGRAM
LEGEND AND DETAILS

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1–0600A–P0001	003	00	A1

1–0600A–P0001–003–00.dwg

LAST SAVE: 2013/12/12 – 9:33am
PATH: M:\611003\0000\4ENG\49PRC\00 – General DWG\1–0600A–P0001–003–00.dwg