

ControlDraw Demonstration A Model based on ISA 5.6 Print and Review Report

Note - the model is under development but this indicates how to meet the requirements of the ISA 5.6 Standard

Control Draw 2008

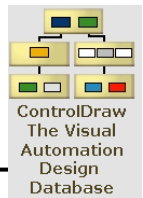
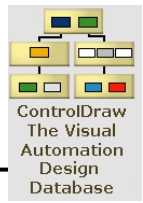


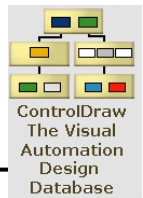
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Demo IS5.6

Project Information

Item	Value
Project Name:	ISA-5.06.01-2007 Demo
Client:	ControlDraw Customers
Reviewer View Name:	ISA56 Demo Model in e:\E_CDReference\Samples3\Comments3.mdb
Last edited with ControlDraw Version:	1141
Printed with Reviewer Version:	481

View Contents

Information Page
Diagram Descriptions
37 Diagrams
6 Data Reports
Deleted Diagram List

Issue History

Date	Issue	Version	Author	Details
06/09/2008	Major Issue - 1A	94	Francis Lovering	Publish for ControlDraw customers and Web Demonstration
03/09/2008	Minor Issue - 0B	56	Francis Lovering	Third preliminary issue for web
31/08/2008	Minor Issue - 0A	35	Francis Lovering	First preliminary issue

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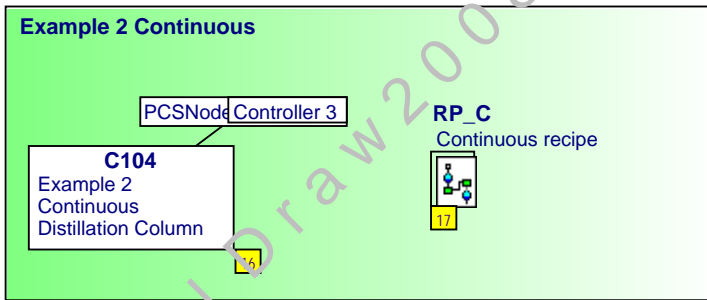
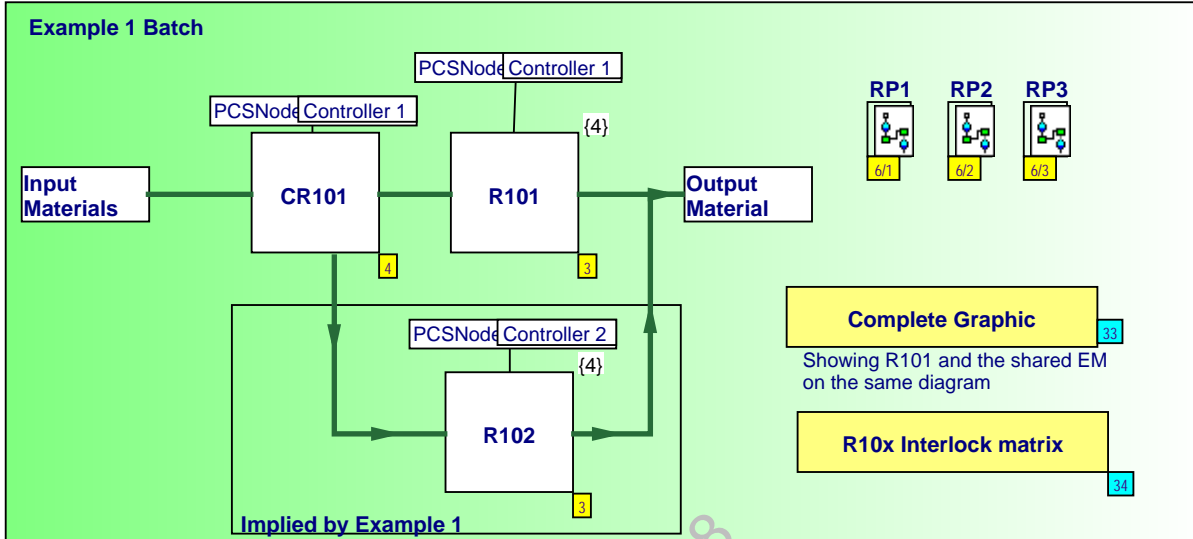
Diagram 1 - Overview

Diagram Version: 96

Class: Process Cell

Based on
 AMERICAN NATIONAL STANDARD ANSI/ISA-5.06.01-2007
 Functional Requirements Documentation for Control Software Applications
 Examples 1 and 2

Guide and Key to symbols



Examples from database
 Automatically generated

IO Type	Count
AI	14
AO	12
DI	20
DO	15
Total	61

IO Count database query

IO Count by Controller (PCS)			
IO Type	Controller 1	Controller 2	Controller 3
AI	3	2	9
AO	3	2	7
DI	12	4	4
DO	9	3	3
Total	27	11	23

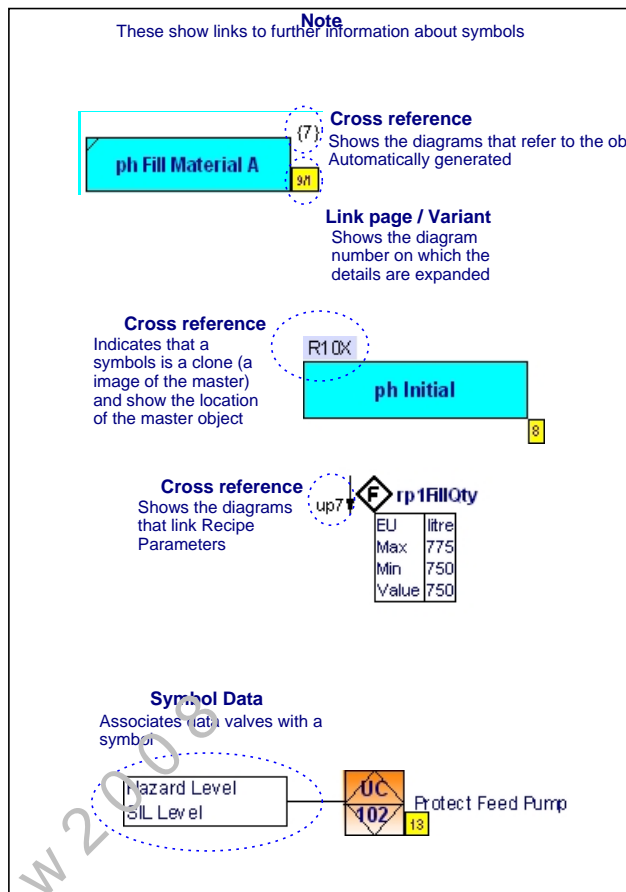
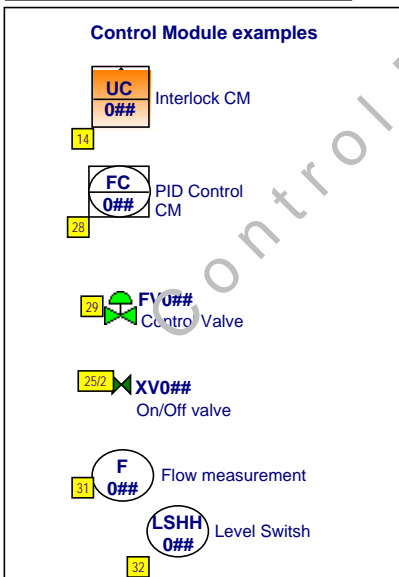
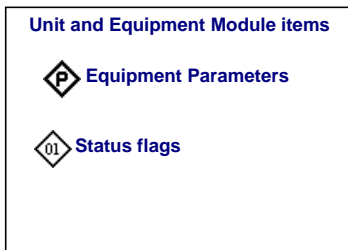
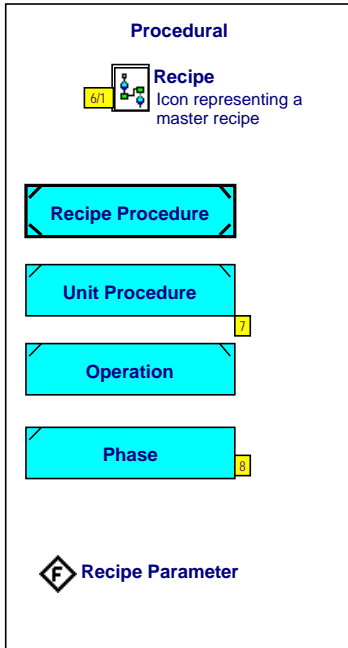
Note
 An explanation of how ControlDraw models relate to sections of the standard

- 35 Database
- 36 Interlock Matrix
- 37 Sequence Matrices
- 35 Human-Machine Interface

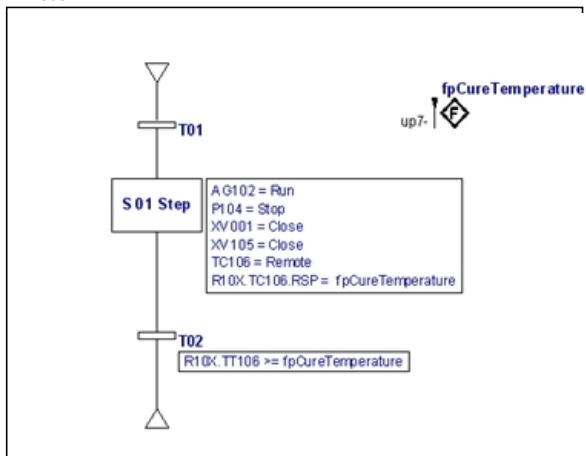
Demo IS5.6

Diagram 2 - Guide and Key to symbols

Diagram Version: 96 Class: Document Reference



Example of an equipment phase, steps and transition refer to objects in the model



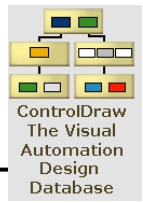
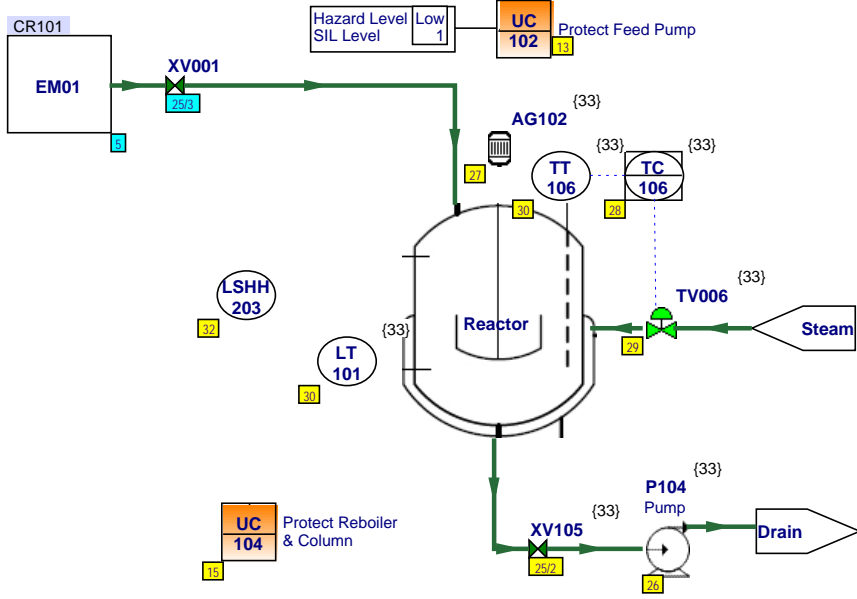


Diagram 3 - R10X

Diagram Version: 91

Class: Unit



Phases	
ph Initial	{7} 8
ph Fill Material A	{7} 9/1
ph Fill Material B	{7} 9/2
ph Fill Material C	{7} 9/3
phHeat	{7} 10
ph Cure	{7} 11
ph Dump	{7} 12
ph Shutdown	{7}

Note
Product goes down the drain!

Equipment Parameters
Non Recipe Parameters
Like 'variables coded in program' in the example, but that is not a good idea

- ◆ epMinAgitateLevel
- ◆ epEmptyLevel
- ◆ epDrainTime
- ◆ epMinPumpLevel

Status flags

- blnAllInAuto ◆ 01
- blnNoAlarms ◆ 01
- blnDevicesAllSet ◆ 01

Control Draw 2008

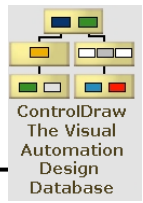


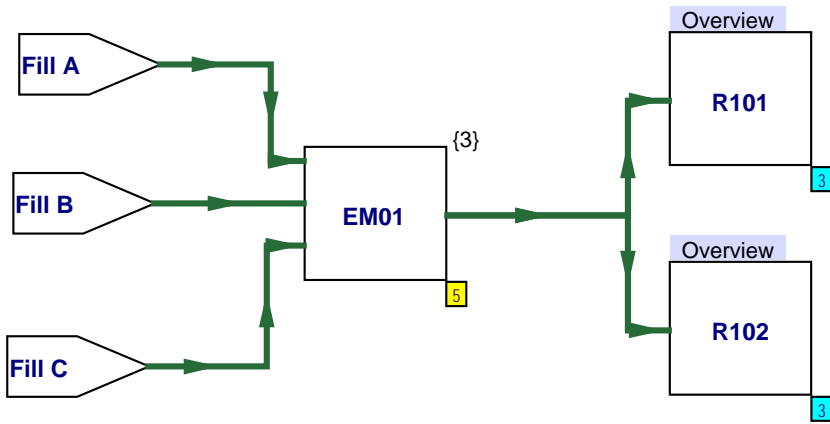
Diagram 4 - CR101

Diagram Version: 95

Class: Common Resource

This is a common Resource

It contains the shared equipment module the supplies either reactor.
This level in the Hierarachy is not stated as present in the S88.91 models, but having it improves the consistency of the model.

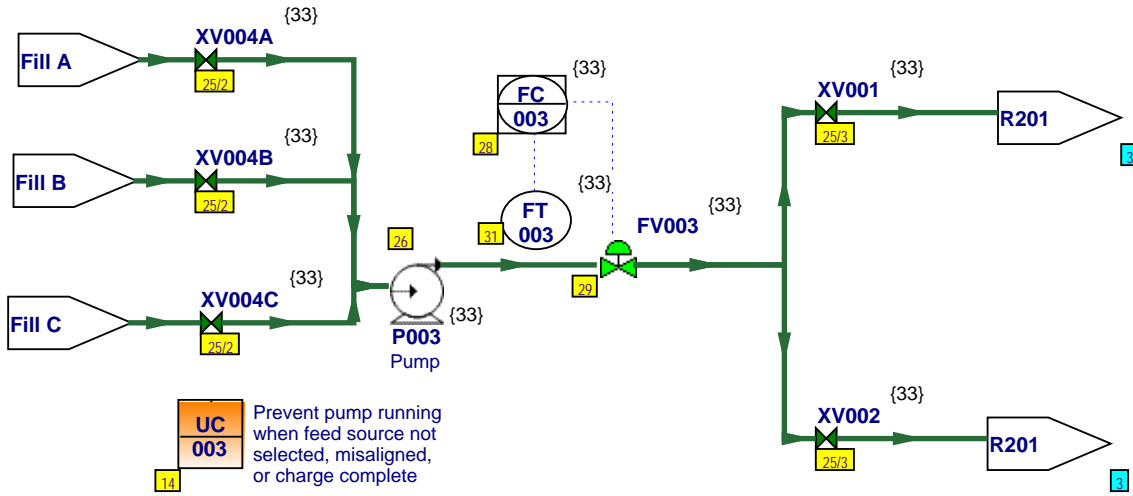


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Diagram 5 - EM01

Diagram Version: 91

Class: Equipment Module



Note - not all these have yet been incorporated in this model

ANSI ID NUMBER	INITIATING DEVICES (FAULT)	CONTROL DEVICES (ACTION)	OPERATING MODE	INTERLOCK PURPOSE
	SETPOINTS	LOGIC		
*	{LAHH-103 IN ALARM (ALSO HARDWIRED****)} OR {R01.BATCHID <= EM1.BATCHID **} OF {XV-002 OPEN (ZSC-002 OFF)} OR {HS-004 MISALIGNED (INPUT STATE)}	CLOSE XV-001 (HS-001 OFF)	MANUAL RESET	PREVENT R-101 FROM OVERFLOWING, CONFIRM PROCESS OWNER, INTEGRITY OF CHARGE MEASUREMENT, AND PREVENT CHARGING WRONG MATERIAL
*	{LAHH-203**** IN ALARM (ALSO HARDWIRED****)} OR {R02.BATCHID <= EM1.BATCHID **} OF {XV-002 OPEN (ZSC-002 OFF)} OR {HS-004 MISALIGNED (INPUT STATE)}	CLOSE XV-002 (HS-002 OFF)	MANUAL RESET	PREVENT REACTOR FROM OVERFLOWING, CONFIRM PROCESS OWNER, INTEGRITY OF CHARGE MEASUREMENT, AND PREVENT CHARGING WRONG MATERIAL
*	{XV-001 FB_ERR OR XV-002 FB_ERR (ALARM STATES)} OR {XV-001 CLOSED AND XV-002 CLOSED (COMMAND STATES)} OR {HS-004 CLOSED (INPUT STATE)}	STOP P-003 (HS-003 OFF)	MANUAL RESET	INTEGRITY OF CHARGE PATH, PREVENT PUMP RUNNING WITH DISCHARGE BLOCKED, AND PREVENT PUMP RUNNING WITH INLET BLOCKED
*	P-003 RUNNING (XI-003 ON)	START FQC-003 INTEGRATION (FQ-003 ACCUMULATOR)	MANUAL RESET	INTEGRITY OF CHARGE MEASUREMENT

** Not shown on P&ID
 ** BATCHID's allocated by recipe after confirming EM or unit availability
 *** SIL satisfied by hardwired protection; independent software layer provided for proper HS operation.
 **** LAHH-203 specified separately in R-201 database matrix

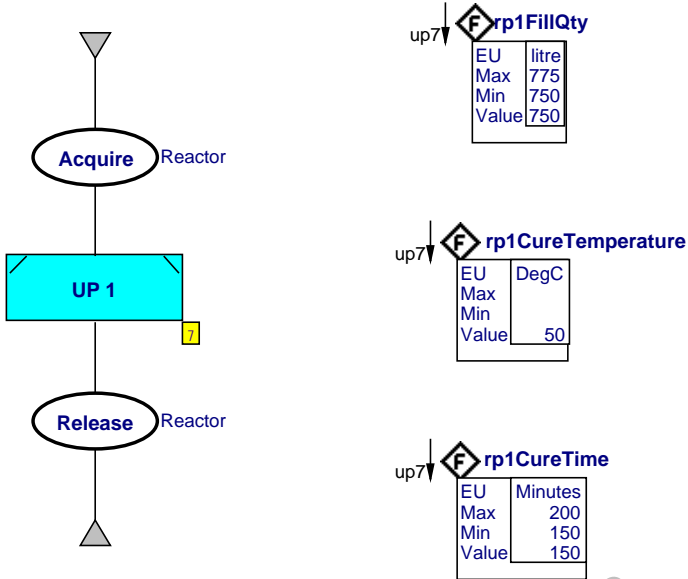
Figure 11b — Software interlock matrix for Equipment Module EM-1

Diagram 6 - RP

Diagram Version: 90

Class: Recipe Procedure

Variant 1 - Type 1



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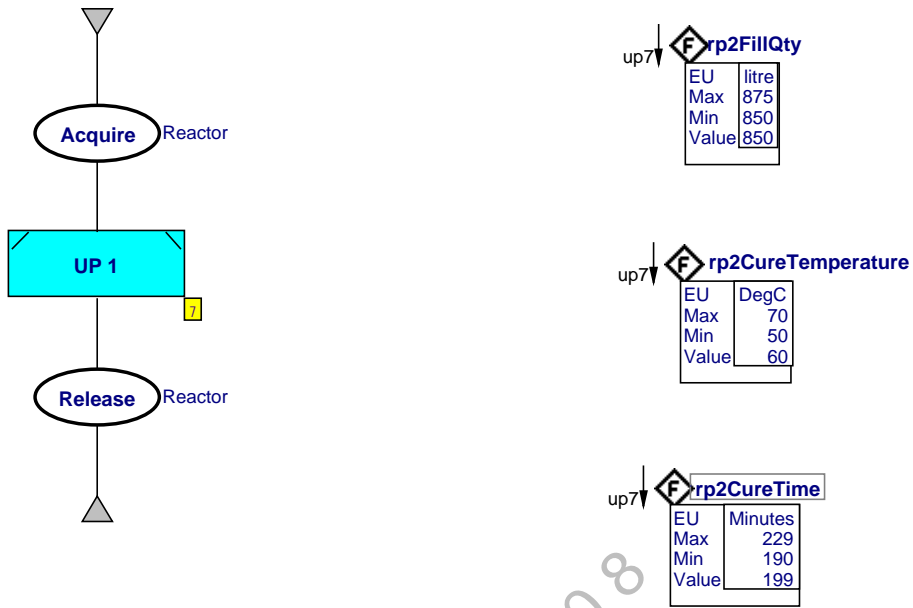
Demo IS5.6

Diagram 6 - RP

Diagram Version: 90

Class: Recipe Procedure

Variant 2 - Type 2



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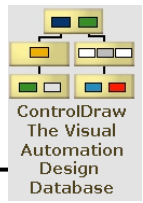
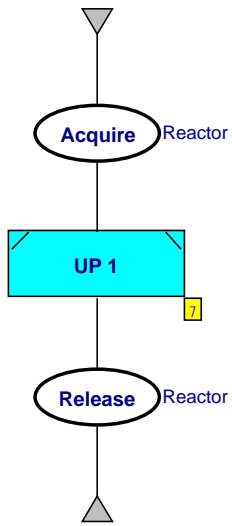


Diagram 6 - RP
 Diagram Version: 90
Variant 3 - Type 3

Class: Recipe Procedure



up7 ↓ **F rp3FillQty**

EU	litre
Max	975
Min	950
Value	950

up7 ↓ **F rp3CureTemperature**

EU	DegC
Max	75
Min	55
Value	60

up7 ↓ **F rp3CureTime**

EU	Minutes
Max	1000
Min	990
Value	990

Control Draw 2008

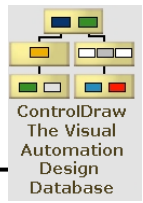


Diagram 7 - up Recipe 1

Diagram Version: 90

Class: Unit Procedure

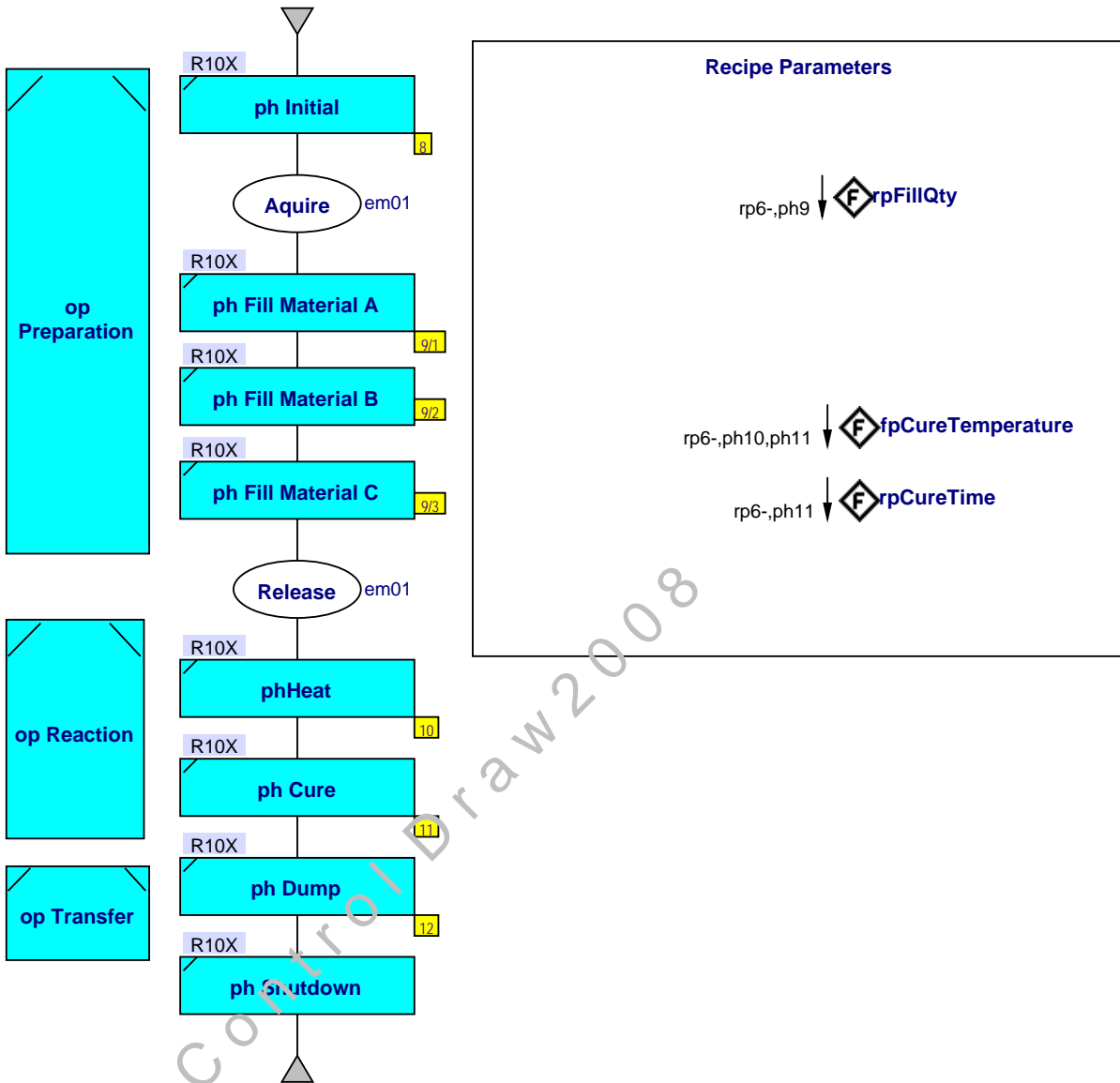
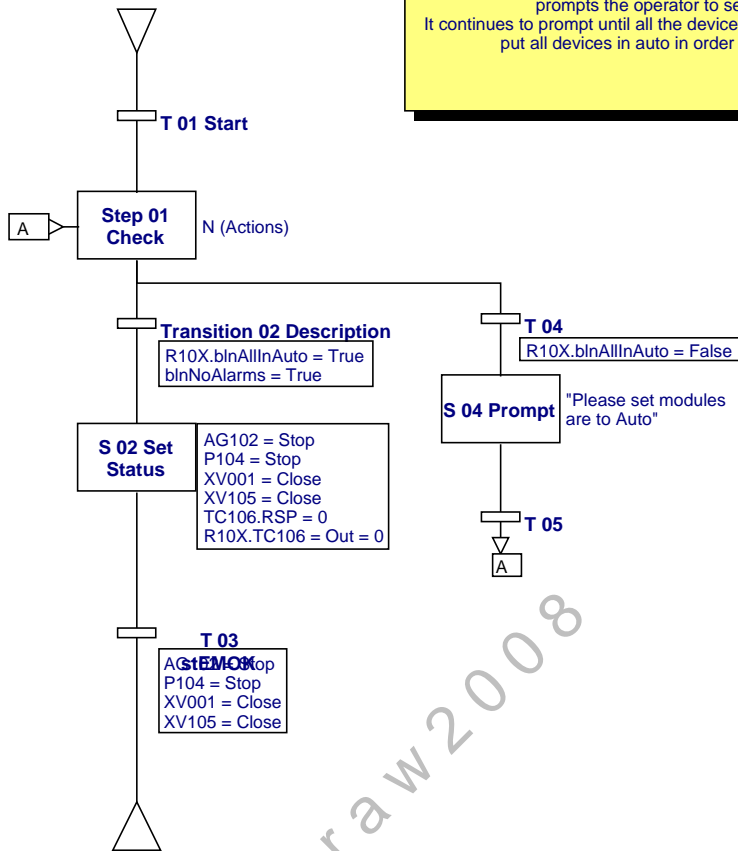


Diagram 8 - ph R10x Initial

Diagram Version: 95 Class: Phase

Note

This phase checks that the unit is in auto (ie all it's modules are in Auto) and prompts the operator to set them if they are not. It continues to prompt until all the devices are in auto, so the operator **MUST** put all devices in auto in order to complete the operation.



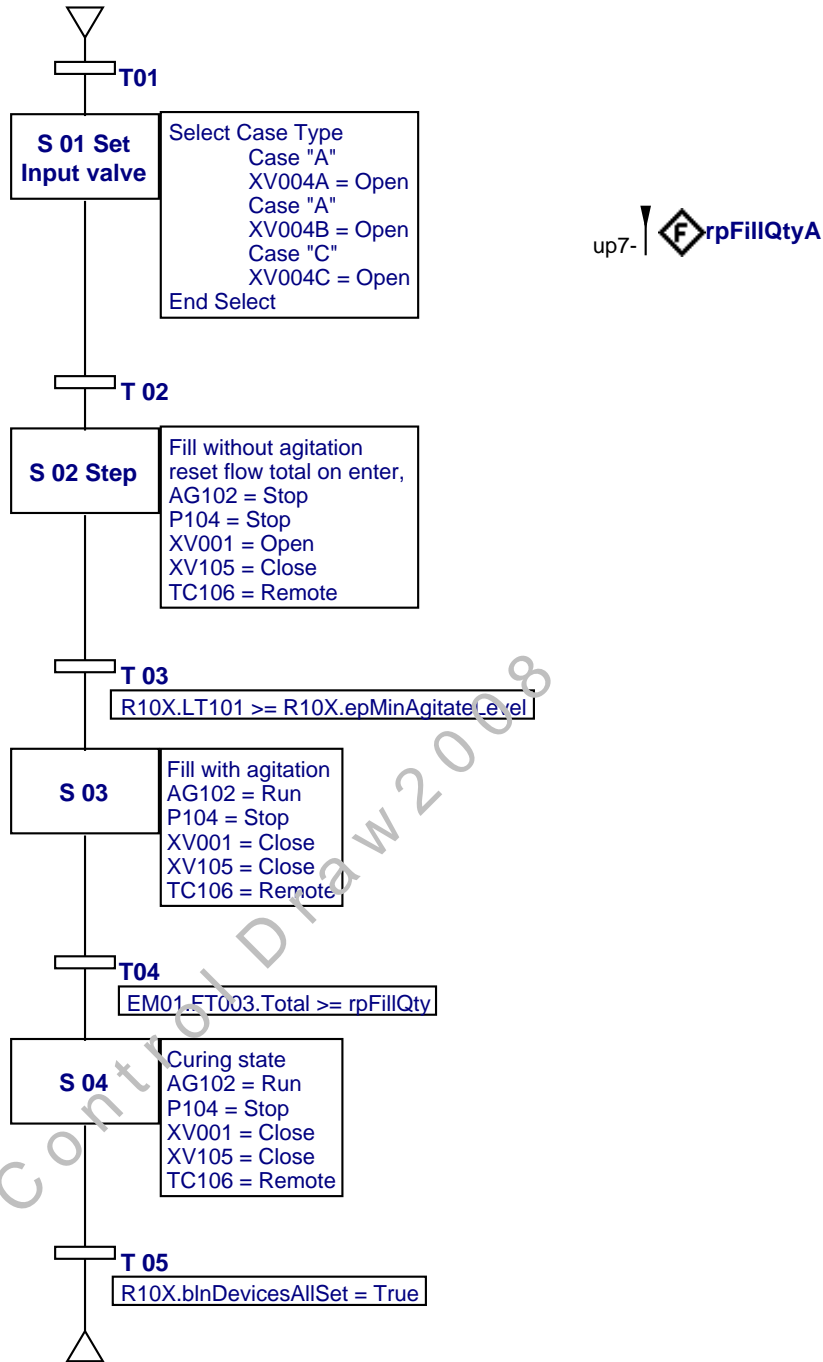
Control Draw 2008

Diagram 9 - ph R10x Fill

Diagram Version: 95

Class: Phase

Variant 1 - A



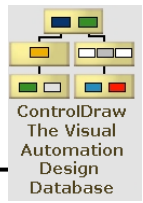
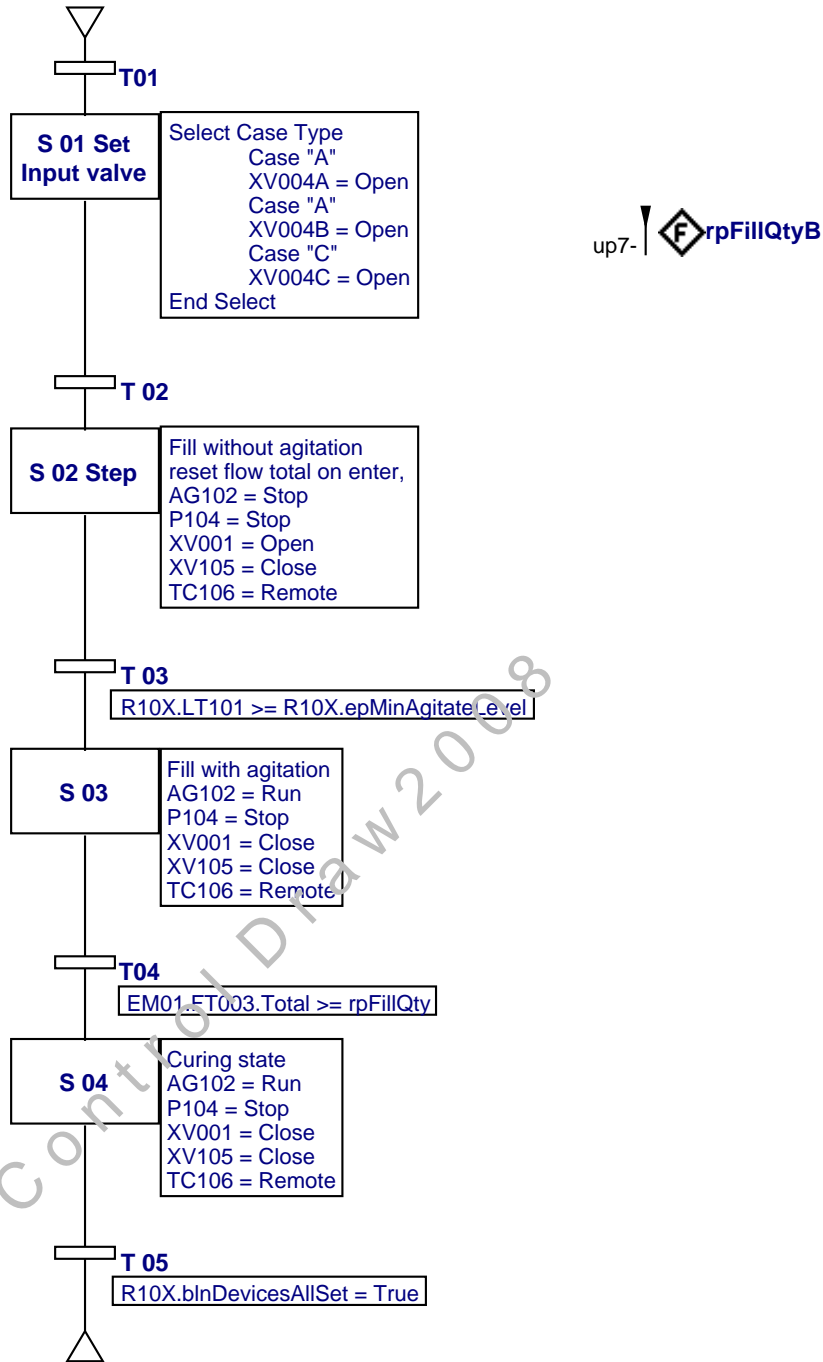


Diagram 9 - ph R10x Fill

Diagram Version: 95

Class: Phase

Variant 2 - B



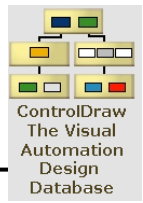
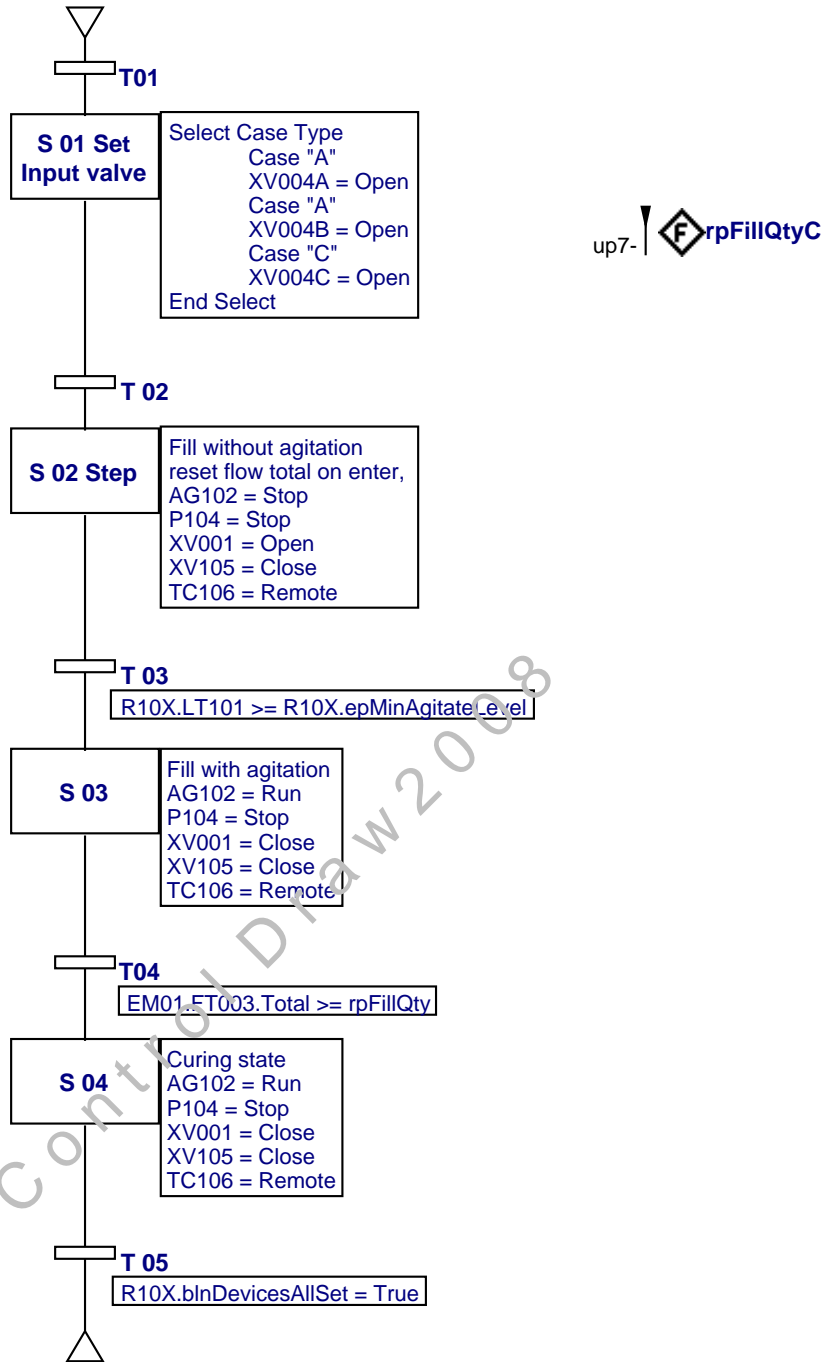


Diagram 9 - ph R10x Fill

Diagram Version: 95

Class: Phase

Variant 3 - C



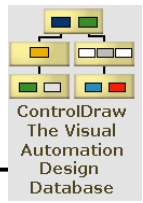
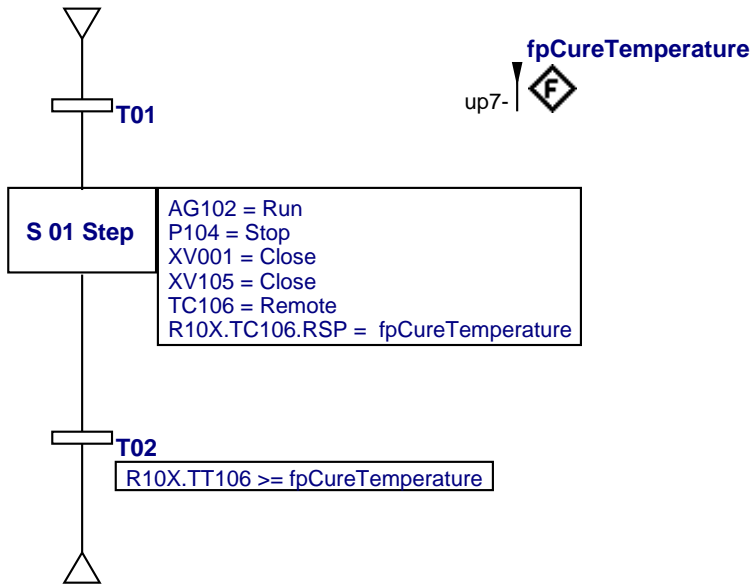


Diagram 10 - ph R10x Heat

Diagram Version: 90 Class: Phase



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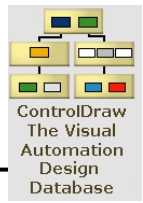
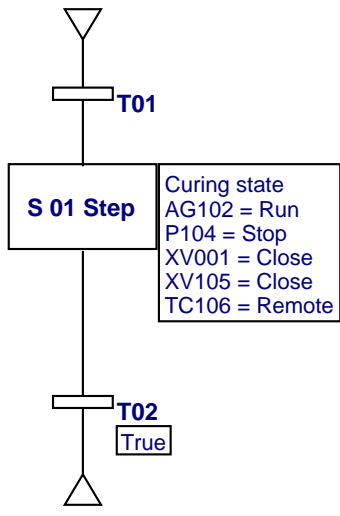


Diagram 11 - ph R10x Cure

Diagram Version: 71 Class: Phase



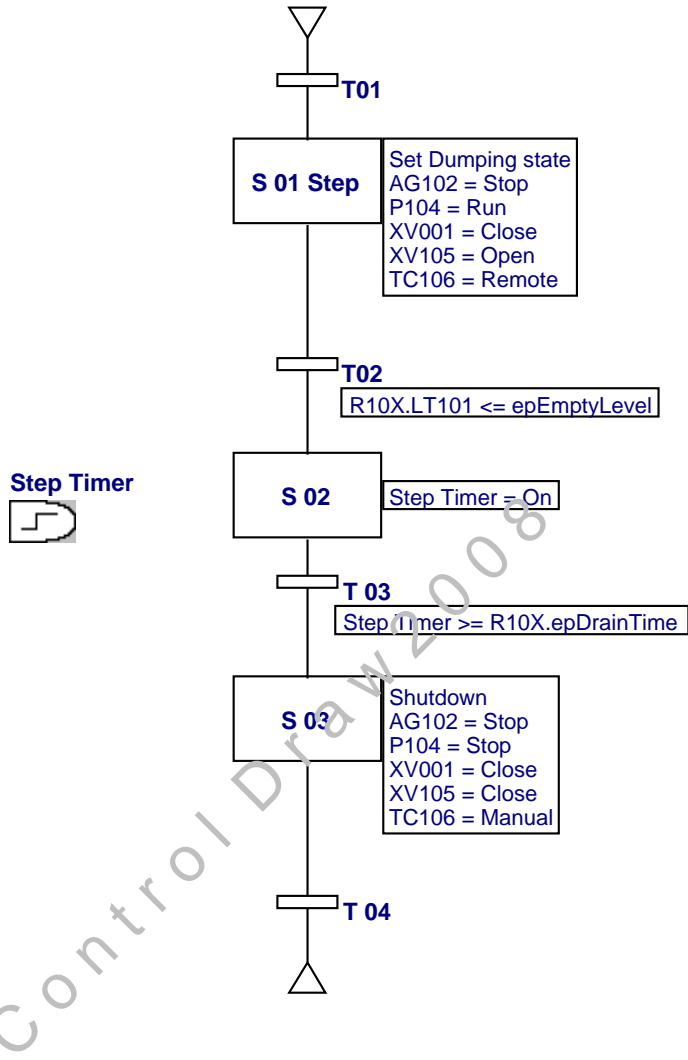
up7- | rpCureTime

up7- | fpCureTemperature

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Diagram 12 - ph R10x Dump

Diagram Version: 66 Class: Phase



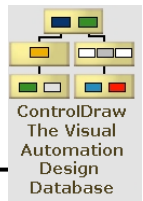



Diagram 13 - UC102

Diagram Version: 93

Class: Interlock Control Module

 **HS**
Manual override

If the liquid level is too low interlocks UC-102 and UC-104 will shut off the mixer and pump.

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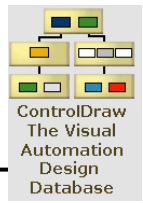


Diagram 14 - UC003

Diagram Version: 91

Class: Interlock Control Module

HS

{HS-004 CMD = CLOSED *}
{HS-004 CMD = CLOSED *}
OR {HS-004 INPUT = MISALIGNED *} OR
{FQ-003 > RECIPE SP
(FQSH-003 ON)}

P003.Interlock Condition = (UC003.HS = CLOSED) Or
- 4 INPUT = MISALIGNED Or
FQ - > RECIPE SP
FQSH - 3 ON

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Diagram 15 - UC104

Diagram Version: 91

Class: Interlock Control Module

Note

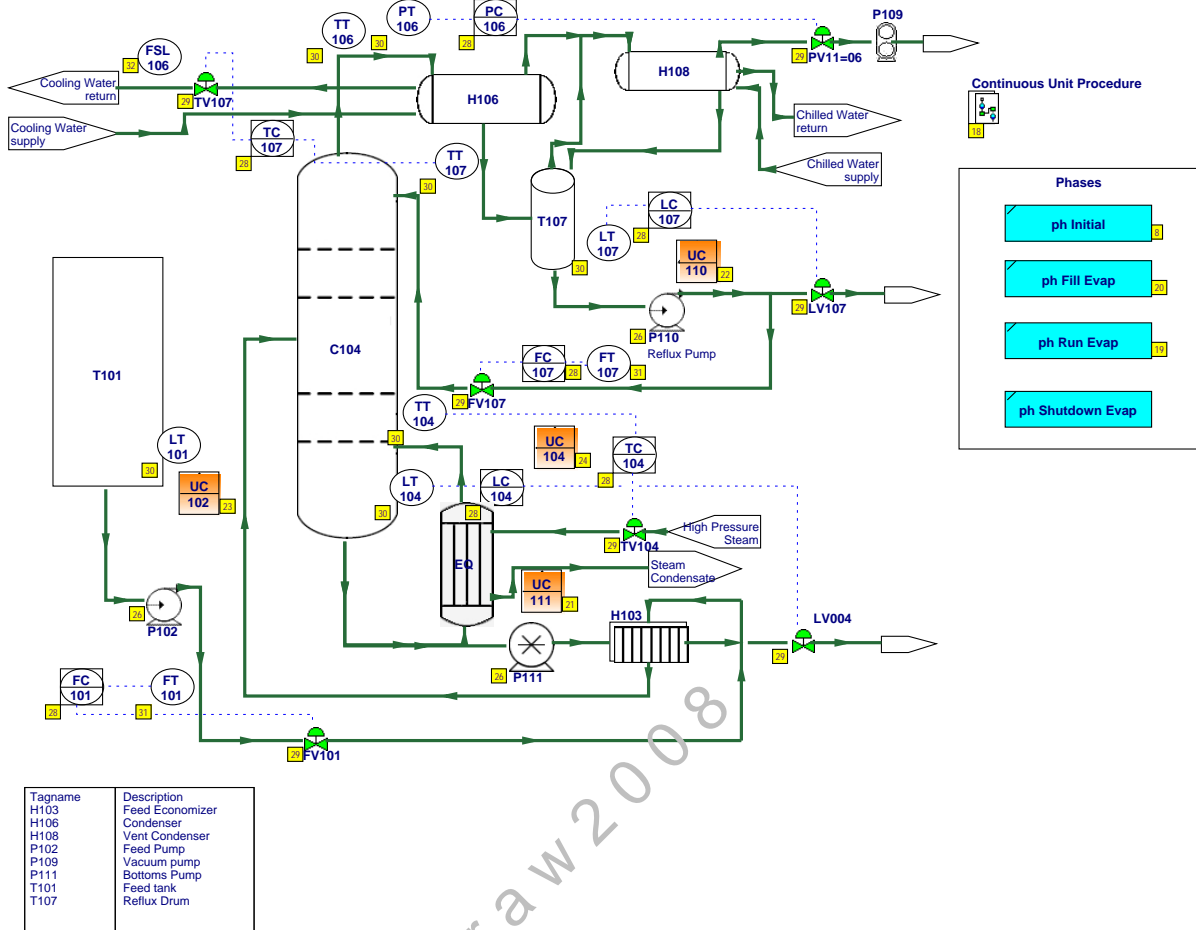
Interlock UC-104 closes the reboiler steam valve (TV-104) if the column level drops below the 5% value or if the condenser cooling water flow slows (FAL-106).

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Diagram 16 - C104

Diagram Version: 91

Class: Unit

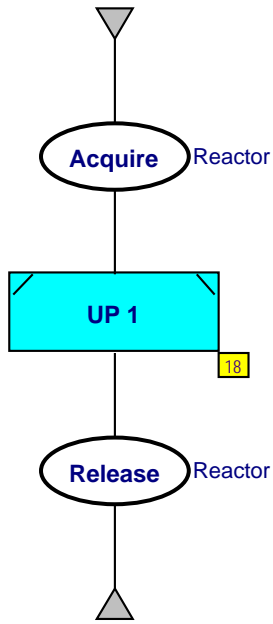


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Diagram 17 - RP_C

Diagram Version: 85

Class: Recipe Procedure



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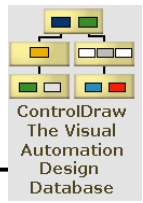
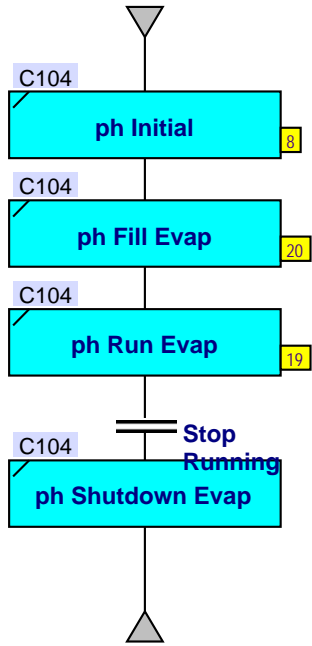


Diagram 18 - Continuous Unit Procedure
Diagram Version: 52 Class: Unit Procedure



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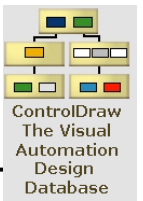
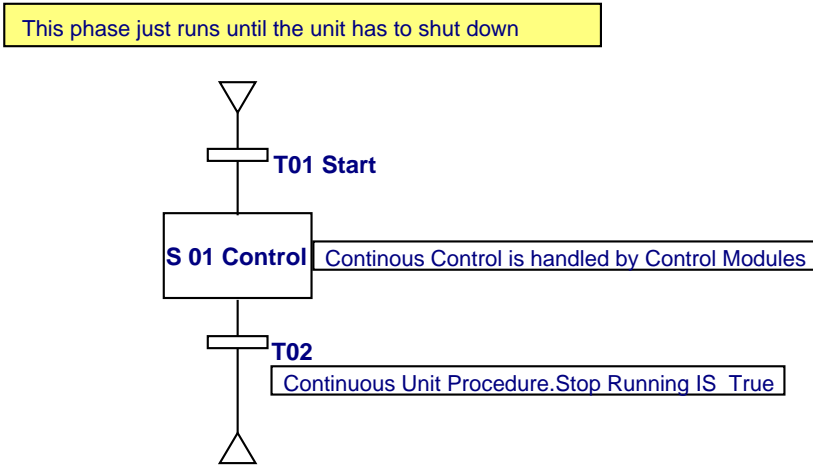


Diagram 19 - ph Run Evap

Diagram Version: 52 Class: Phase



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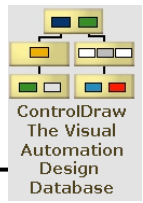


Diagram 20 - ph Fill Evap

Diagram Version: 55 Class: Phase

This is just an example and only the first few steps.. Even those may not be sensible!

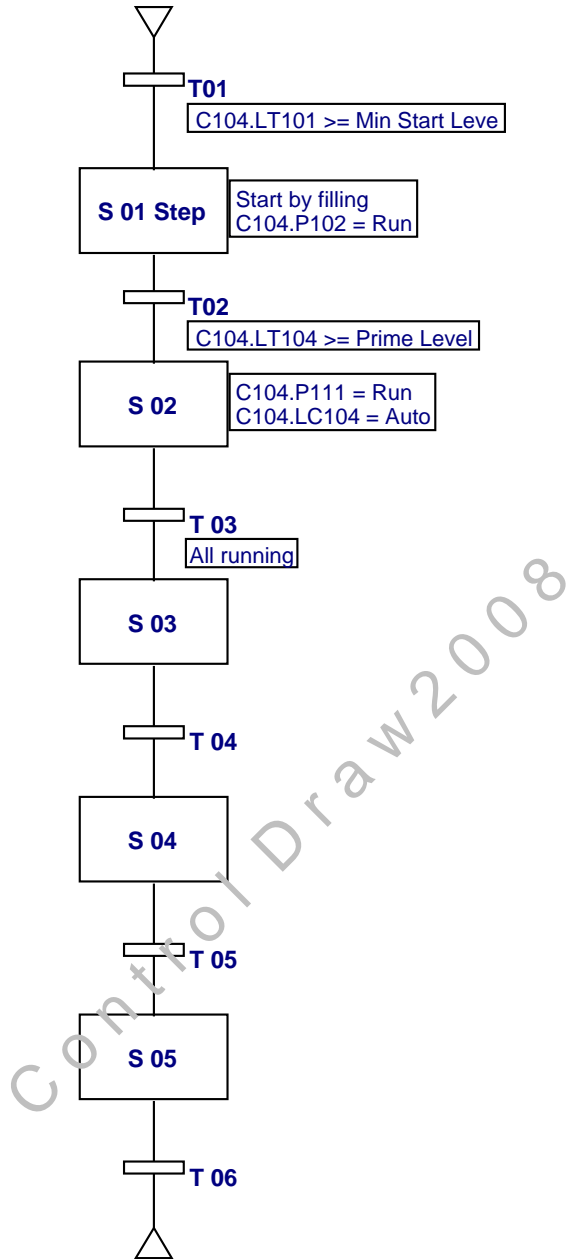


Diagram 21 - UC111

Diagram Version: 91

Class: Interlock Control Module

Interlock UC-111 turns off the bottoms pump (P-111) if the column level drops below the 5% value.

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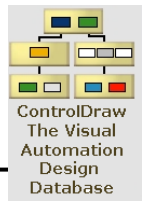


Diagram 22 - UC110

Diagram Version: 91

Class: Interlock Control Module

Interlock UC-110 turns off the reflux pump (P-110) when the reflux drum level (LIC-107) reaches 10%.

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Diagram 23 - UC102 (Column)

Diagram Version: 93 Class: Interlock Control Module

P102.Interlock Condition = (LT101.Val <= epMinPumpLevel) Or UC102.HS

 **HS**
Manual override

Note

Interlock UC-102 turns off the column feed pump (P-102) when the feed tank (T-101) level drops below 2500 liters. (Turning off this pump will eventually activate UC-104 and UC-111, shutting down the column steam supply and bottoms pump.)

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Diagram 24 - UC104 (Column)

Diagram Version: 91 Class: Interlock Control Module

Interlock UC-104 closes the reboiler steam valve (TV-104) if the column level drops below the 5% value or if the condenser cooling water flow slows (FAL-106)

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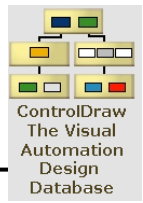
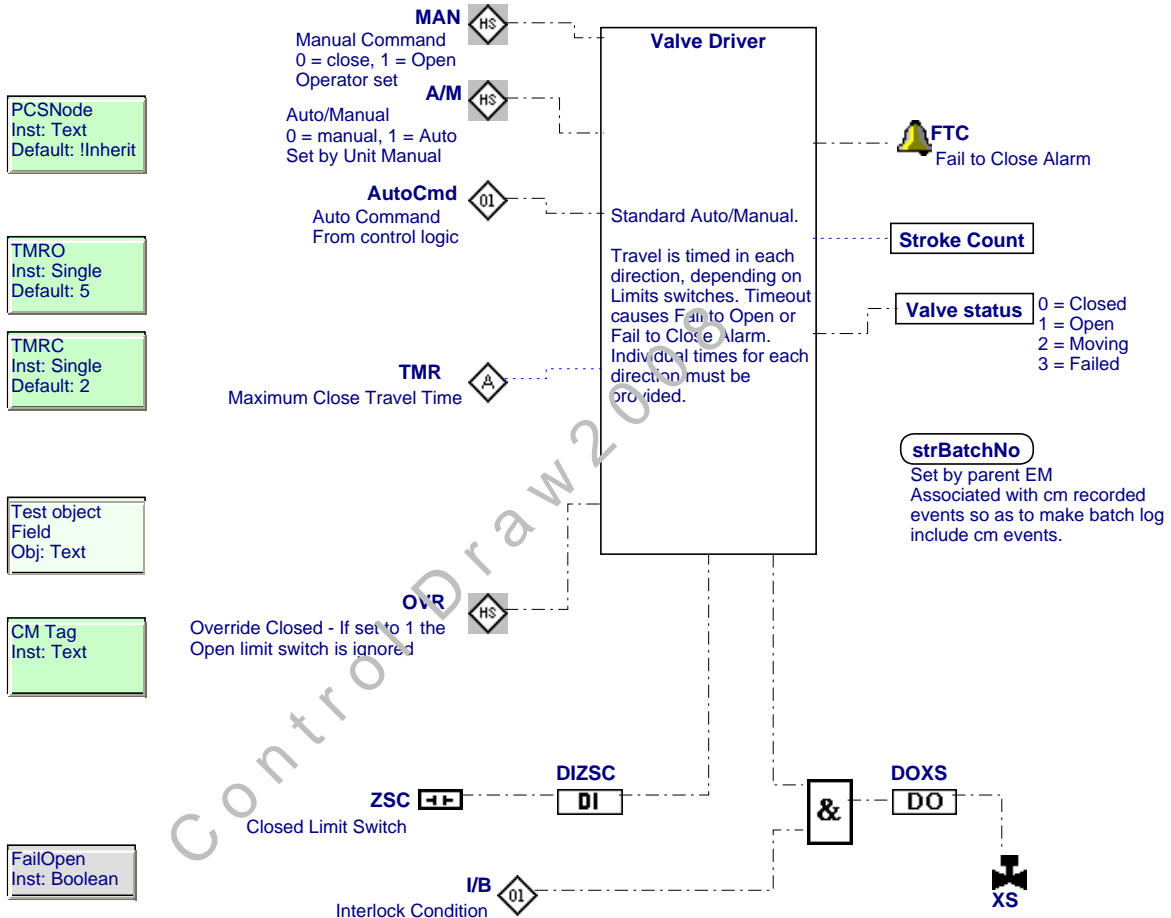
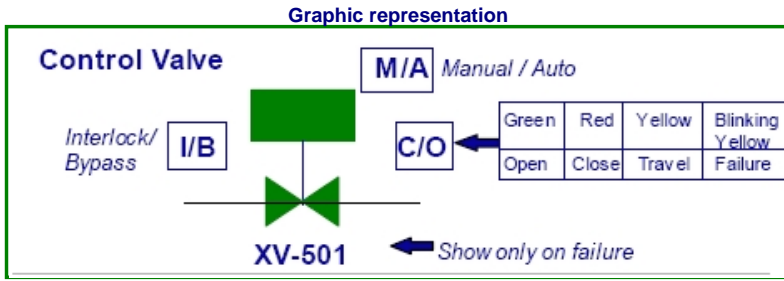


Diagram 25 - On Off Valve

Diagram Version: 95 Class: Valve

Variant 2 - Closed LS



PCNode
Inst: Text
Default: !Inherit

TMRO
Inst: Single
Default: 5

TMRC
Inst: Single
Default: 2

Test object
Field
Obj: Text

CM Tag
Inst: Text

FailOpen
Inst: Boolean

Type
Inst: Text

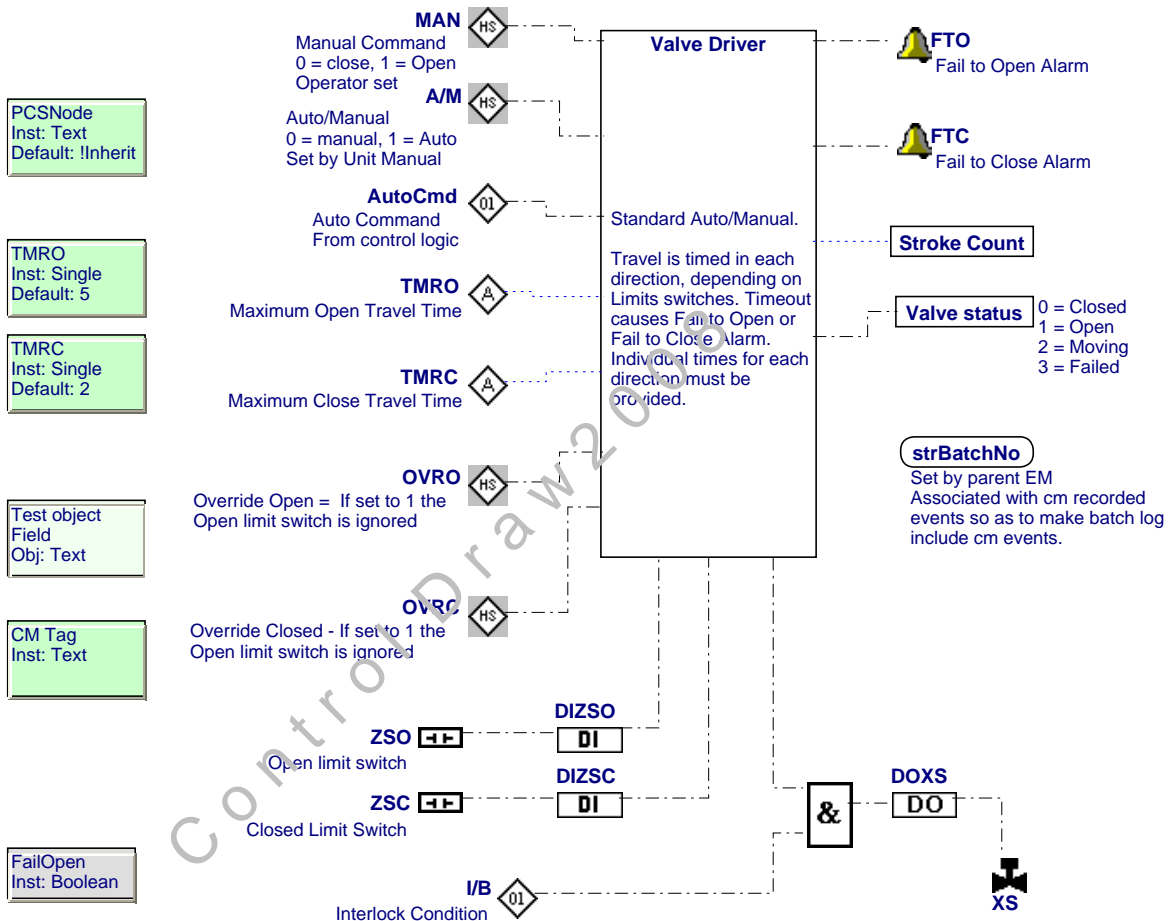
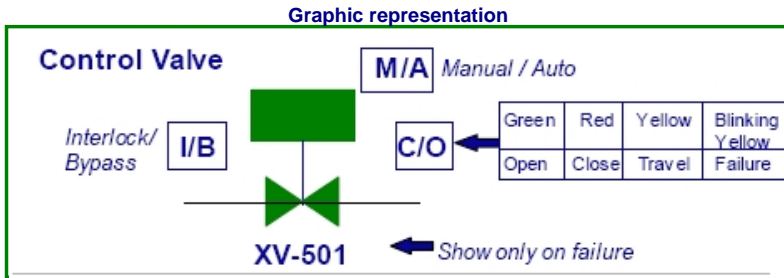
Signed
Test Sheet
Table

Tested
Test Sheet
Table

List of Variants

	1-Open LS	2-Closed LS	3-2 Limit Switches	4-No limit switches
DIZSC	{Excluded}			{Excluded}
DIZSO		{Excluded}		{Excluded}
FTC				{Excluded}
FTO		{Excluded}		{Excluded}
OVR	{Excluded}	OVR		{Excluded}
OVRO	OVR	{Excluded}		{Excluded}
TMRC	{Excluded}	TMR		{Excluded}
TMRO	TMR	{Excluded}		{Excluded}
ZSC	{Excluded}			{Excluded}
ZSO		{Excluded}		{Excluded}

Diagram 25 - On Off Valve
 Diagram Version: 95 Class: Valve
Variant 3 - 2 Limit Switches



PCNode
Inst: Text
Default: !Inherit

TMRO
Inst: Single
Default: 5

TMRC
Inst: Single
Default: 2

Test object
Field
Obj: Text

CM Tag
Inst: Text

FailOpen
Inst: Boolean

Type
Inst: Text

Signed
Test Sheet
Table

Tested
Test Sheet
Table

List of Variants

	1-Open LS	2-Closed LS	3-2 Limit Switches	4-No limit switches
DIZSC	{Excluded}			{Excluded}
DIZSO		{Excluded}		{Excluded}
FTC				{Excluded}
FTO		{Excluded}		{Excluded}
OVRC	{Excluded}	OVR		{Excluded}
OVRO	OVR	{Excluded}		{Excluded}
TMRC	{Excluded}	TMR		{Excluded}
TMRO	TMR	{Excluded}		{Excluded}
ZSC	{Excluded}			{Excluded}
ZSO		{Excluded}		{Excluded}

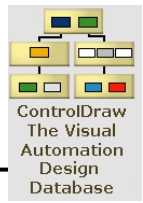
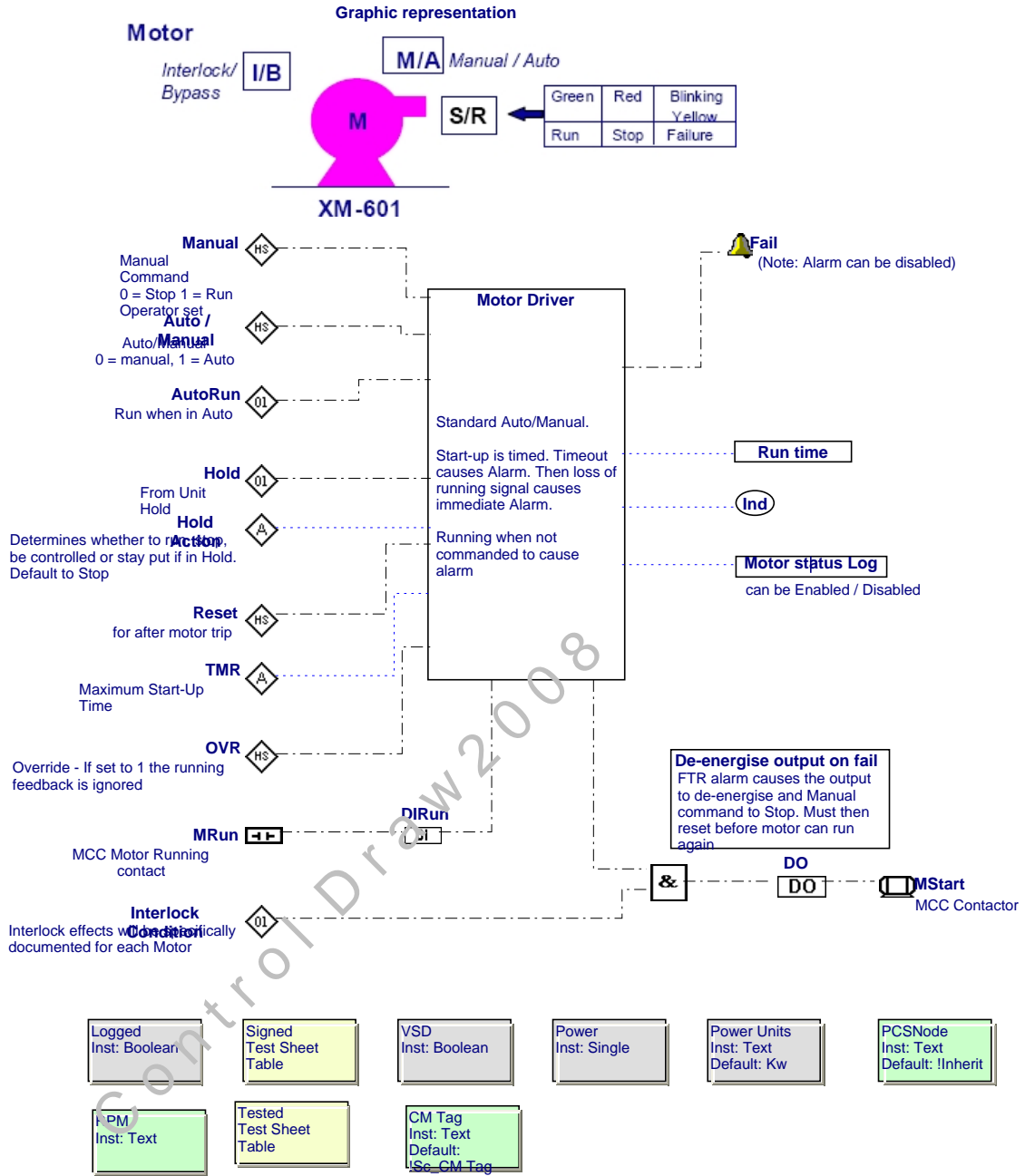


Diagram 26 - Fixed Speed Motor

Diagram Version: 95 Class: Motor

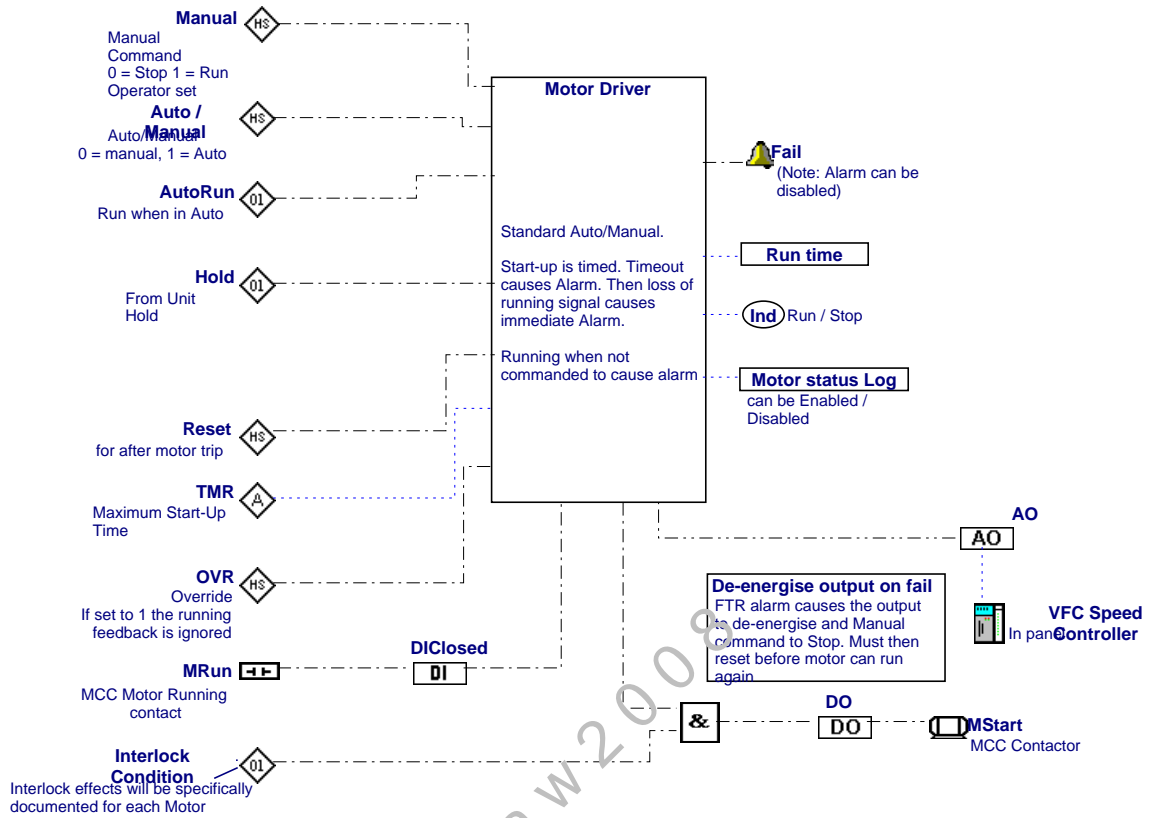


Demo IS5.6

Diagram 27 - Variable Speed motor

Diagram Version: 96 Class: Motor

S88 Class	Name
Control Module	Variable Speed motor



Logged Inst: Boolean	VSD Inst: Boolean	Power Units Inst: Text Default: Kw	Power Inst: Single	Signed Test Sheet Table
RPM Inst: Text	CM Tag Inst: Text Default: Is_CM_Tag	FCSNode Inst: Text Default: !Inherit	Tested Test Sheet Table	

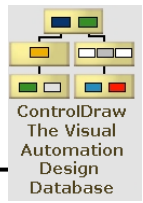
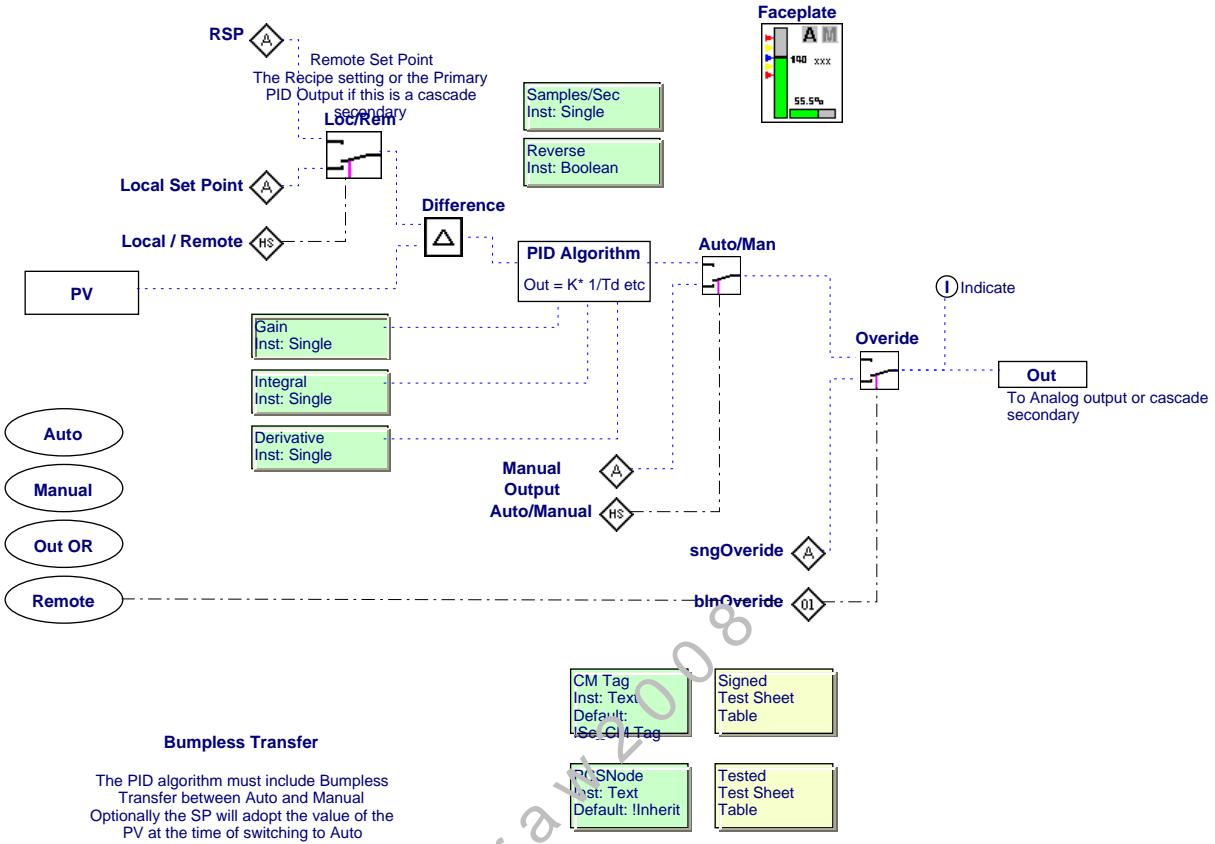


Diagram 28 - Standard PID Loop

Diagram Version: 95 Class: PID Control Loop

S88 Class Control Module	Name Standard PID Loop
-----------------------------	---------------------------

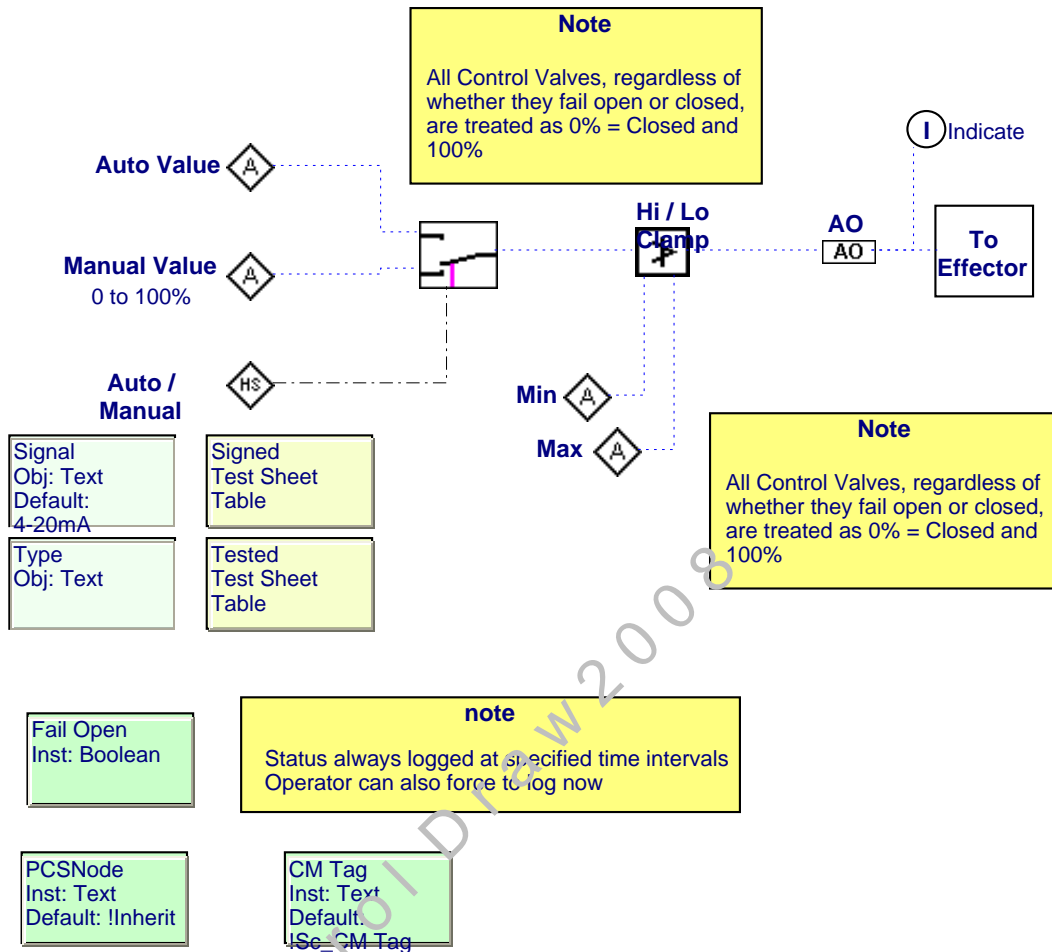


Demo IS5.6

Diagram 29 - Control Valve

Diagram Version: 90 Class: Effector Analog

S88 Class Control Module	Name Control Valve
-----------------------------	-----------------------

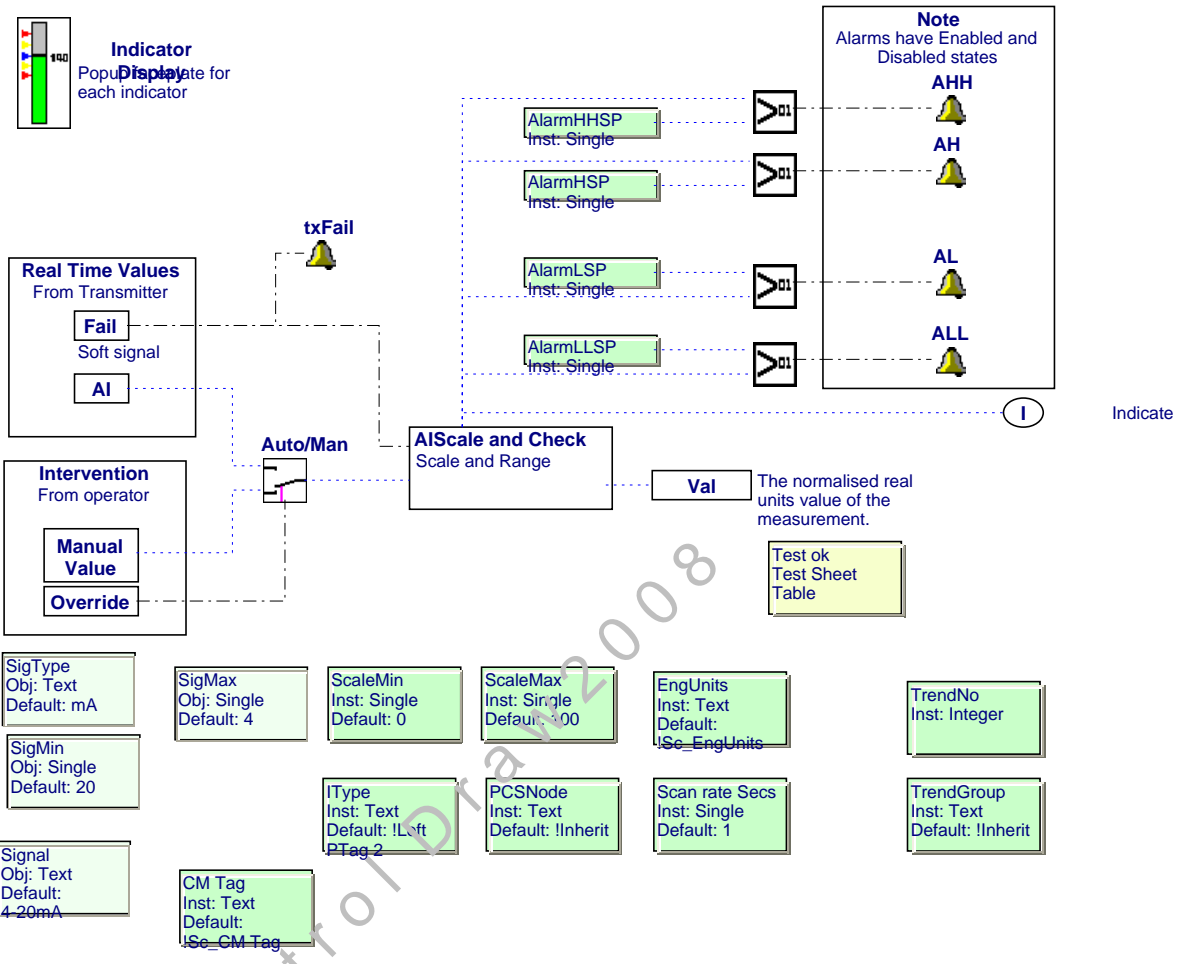


Demo IS5.6

Diagram 30 - Analog Input from Transmitter

Diagram Version: 90 Class: Measurement Analog

S88 Class Control Module	Name Analog Input from Transmitter
-----------------------------	---------------------------------------

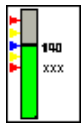


Demo IS5.6

Diagram 31 - Flow Transmitter

Diagram Version: 90 Class: Measurement Analog

S88 Class Control Module	Name Flow Transmitter
-----------------------------	--------------------------



Indicator Display
Popup faceplate for each indicator

Real Time Values
From Transmitter

Fail
Soft signal

AI

Intervention
From operator

Manual Value

Override

txFail

Auto/Man

AI Scale and Check
Scale and Range

I Indicate

Val The normalised real units value of the measurement from the AI.

Total

TrendNo
Inst: Integer

TrendGroup
Inst: Text
Default: !Inherit

SigMax
Obj: Single
Default: 4

Test ok
Test Sheet
Table

ScaleMin
Inst: Single
Default: 0

ScaleMax
Inst: Single
Default: 100

EngUnits
Inst: Text
Default: !Se_EngUnits

SigMin
Obj: Single
Default: 20

Scan rate Secs
Inst: Single
Default: 1

Signal
Obj: Text
Default: 4-20mA

PCSNode
Inst: Text
Default: !Inherit

SigType
Obj: Text
Default: mA

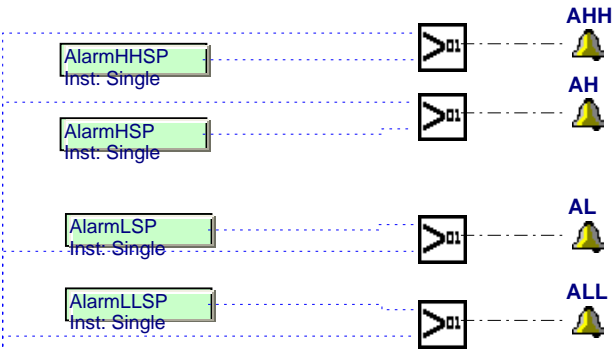
IType
Inst: Text
Default: !Left
PTag 2

CM Tag
Inst: Text
Default: !Se_CM Tag

Alarms Disabled

Alarms Enabled

Note
Can enable and disable alarms all together



ControlDraw 2008

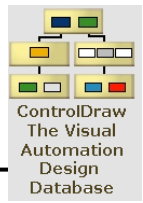
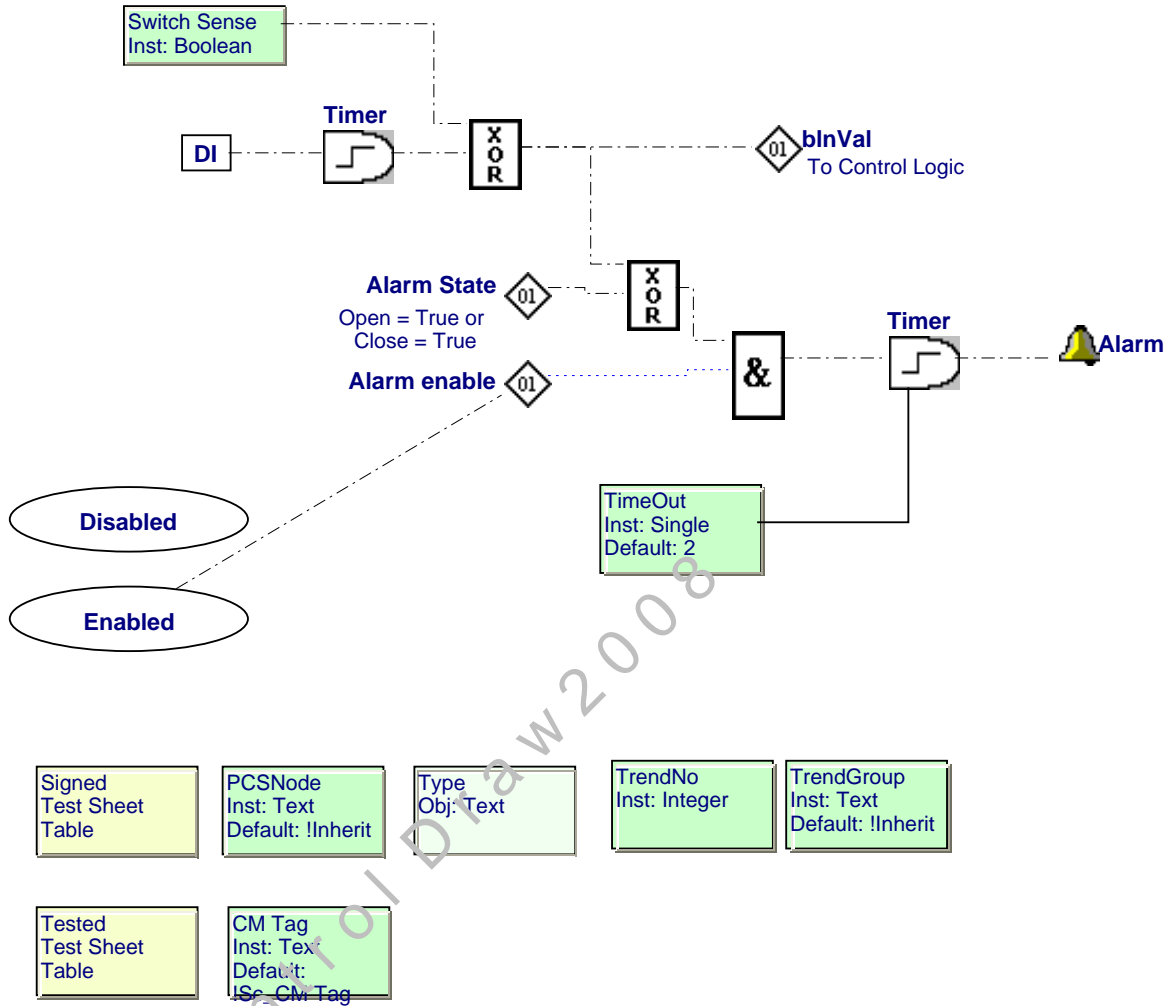


Diagram 32 - Alarm Switch Input

Diagram Version: 91 Class: Measurement Switch

S88 Class Control Module	Name Alarm Switch Input
-----------------------------	----------------------------



Signed
Test Sheet
Table

PCSNODE
Inst: Text
Default: !Inherit

Type
Obj: Text

TrendNo
Inst: Integer

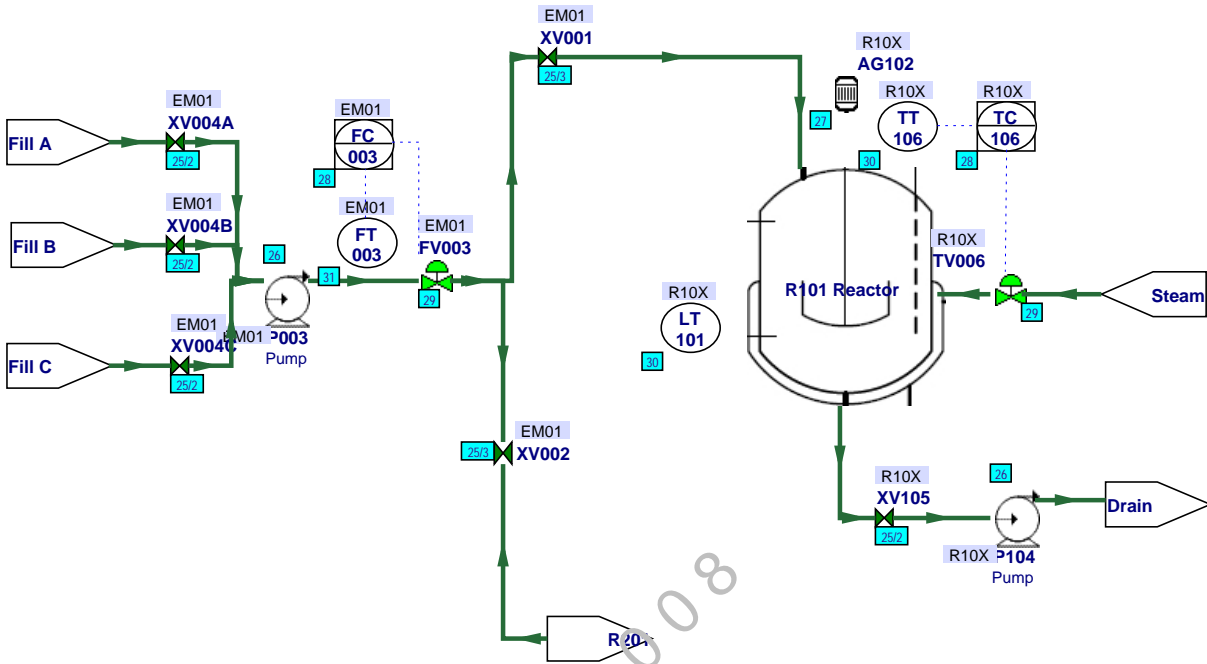
TrendGroup
Inst: Text
Default: !Inherit

Tested
Test Sheet
Table

CM Tag
Inst: Text
Default:
!Sc: CM Tag

Diagram 33 - Complete Graphic

Diagram Version: 90 Class: None



Explanation
This shows the original P&ID with CM objects overlaid. In fact this was the starting point for the model, but the CMs were subsequently moved to their containing modules. It may be that the user will want to have a graphic like this.

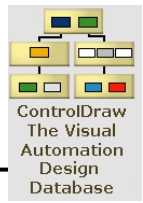


Diagram 34 - R10x Interlock matrix

Diagram Version: 91 Class: Logic Function

Under development

page	Page Tag	CM tag	Hazard Level	SIL Level
3	UC102	UC-102	Low	1
	UC104	UC-104		
	UC102	UC-102	Low	1
	UC104	UC-104		
5	UC003	UC-003		
16	UC102	UC-102		
	UC104	UC-104		
	UC110	UC-110		
	UC111	UC-111		

Control Draw 2008

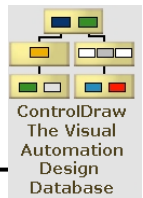
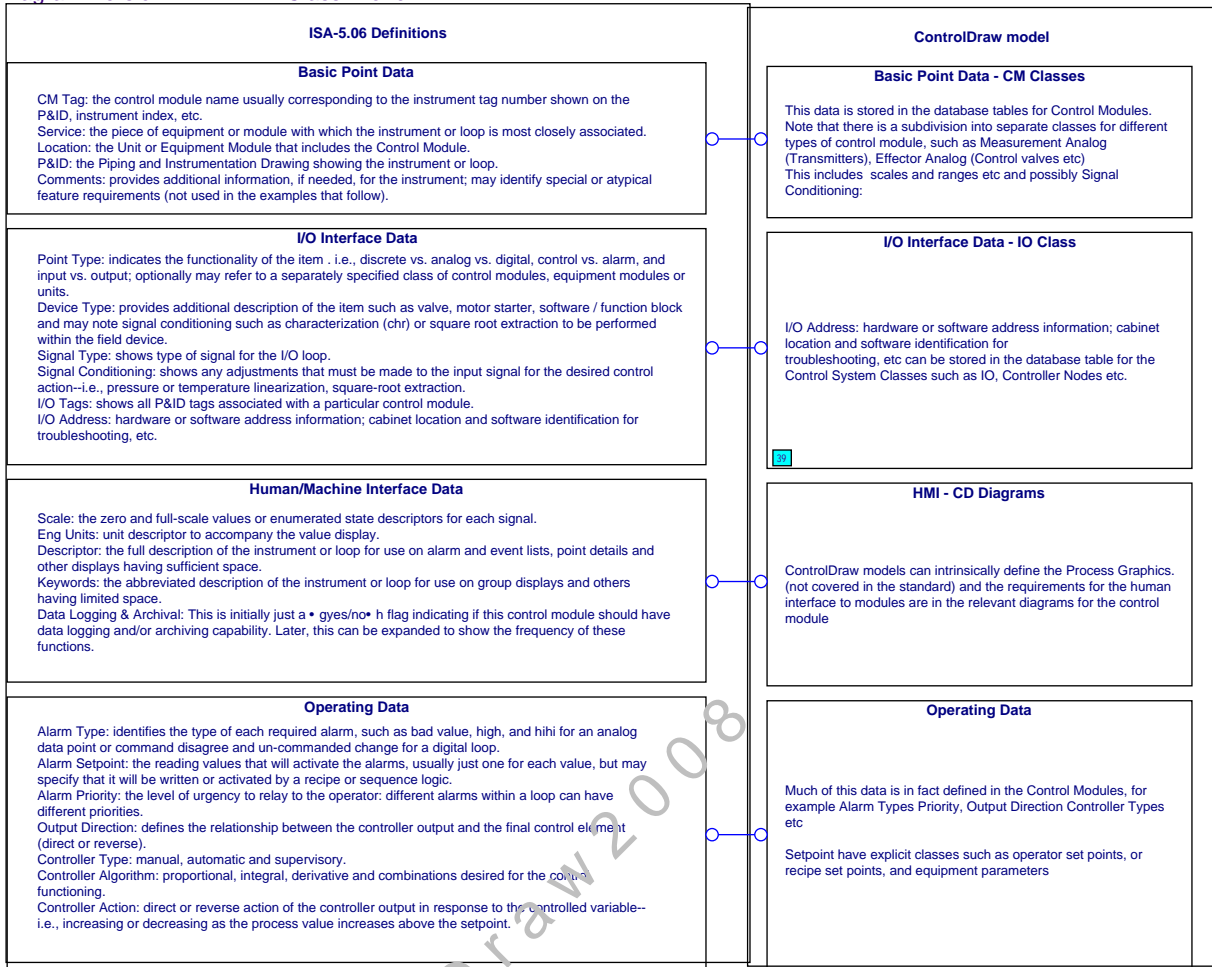


Diagram 35 - Database

Diagram Version: 42 Class: None



Control Draw 2008

Diagram 37 - Sequence Matrix equivalences

Diagram Version: 85 Class: None

THE ISA standard has 3 types of Sequence Matrix..
The ControlDraw model contains all the aspects covered by these but in a different, more object oriented way.
This diagram indicates how.

These are object on the unit and em diagrams

This data is provided by the Recipe and Phase Diagrams

Automatically generate by intrinsic version control

DEVICE TAGS	INITIAL	OPERATIONS					SHUT- DOWN PHASE	CHANGE CONTROL		
	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE		DESCRIPTION	DATE	BY
		DISCRETE CONTROL MODULES								
		ANALOG CONTROL MODULES								
		START OF PHASE CONDITIONS								
		END OF PHASE CONDITIONS								
		ALLOWABLE PHASE TRANSITIONS								
		OPERATOR MESSAGES AND ACTIONS								
		BATCH REPORT VARIABLES								

Figure 7a — Normal sequence matrix

Hold sequence matrix

DEVICE TAGS	INITIAL	OPERATIONS					SHUT- DOWN PHASE	CHANGE CONTROL		
	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE		DESCRIPTION	DATE	BY
		HOLD CONDITIONS								
		HOLD ACTIONS								
		OPERATOR MESSAGES								
		RECOVERY								

Figure 7b — Hold sequence matrix

Recipe, equipment and operator parameters are objects on the Recipe and Phase diagrams

Recipe Sequence Matrix

RECIPE PARAMETERS	INITIAL	OPERATIONS					SHUT- DOWN PHASE	CHANGE CONTROL		
	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE		DESCRIPTION	DATE	BY
		VARIABLES CODED IN PROGRAM								
		VARIABLES ENTERED BY OPERATOR								
		VARIABLES ENTERED BY PRODUCTION SUPERVISOR								

Figure 7c — Recipe sequence matrix

Example 1 Sequence Matrices

38

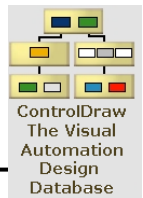


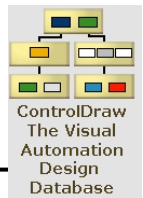
Diagram 39 - I/O Interface Data - IO Class

Diagram Version: 57 Class: None

Note

This is a query for the IO List. On large projects it is not practical to put this on a diagram. instead it can be printed as a Reviewer Report

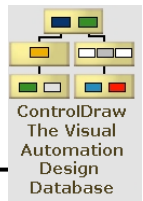
RealTag	DataVersion	IO Type	PCSNode	Card	Channel
R101.XV105.DIZSC	94	DI	Controller 1	1	06
CR101.XV002.DIZSC	94	DI	Controller 1	1	05
CR101.XV004C.DIZSC	94	DI	Controller 1	1	04
CR101.XV004B.DIZSC	94	DI	Controller 1	1	03
CR101.XV004A.DIZSC	94	DI	Controller 1	1	02
CR101.XV001.DIZSC	94	DI	Controller 1	1	00
CR101.XV002.DIZSO	94	DI	Controller 1	1	08
CR101.XV001.DIZSO	94	DI	Controller 1	1	07
CR101.XV002.DOXS	94	DO	Controller 1		
CR101.XV004C.DOXS	94	DO	Controller 1		
CR101.XV004B.DOXS	94	DO	Controller 1		
CR101.XV004A.DOXS	94	DO	Controller 1		
R101.XV105.DOXS	94	DO	Controller 1		
CR101.XV001.DOXS	94	DO	Controller 1		
R101.P104.DIRun	94	DI	Controller 1	1	13
CR101.P003.DIRun	94	DI	Controller 1	1	09
R101.P104.DO	94	DO	Controller 1		
CR101.P003.DO	94	DO	Controller 1		
R101.AG102.AO	94	AO	Controller 1	3	01
R101.AG102.DIClosed	94	DI	Controller 1	1	14
R101.AG102.DO	94	DO	Controller 1		
CR101.FV003.AO	94	AO	Controller 1	3	02
R101.TV006.AO	94	AO	Controller 1	5	00
R101.LT101.AI	94	AI	Controller 1	1	03
R101.TT106.AI	94	AI	Controller 1	2	00
CR101.FT003.AI	94	AI	Controller 1	2	01
R101.LSHH203.DI	94	DI	Controller 1		
R102.XV105.DIZSC	94	DI	Controller 2	1	01
R102.XV105.DOXS	94	DO	Controller 2		
R102.P104.DIRun	94	DI	Controller 2	1	12
R102.P104.DO	94	DO	Controller 2		
R102.AG102.AO	94	AO	Controller 2	3	00
R102.AG102.DIClosed	94	DI	Controller 2	1	15
R102.AG102.DO	94	DO	Controller 2		
R102.TV006.AO	94	AO	Controller 2	4	03
R102.TT106.AI	94	AI	Controller 2	1	02
R102.LT101.AI	94	AI	Controller 2	1	01
R102.LSHH203.DI	94	DI	Controller 2		
C104.P110.DIRun	94	DI	Controller 3		
C104.P102.DIRun	94	DI	Controller 3	1	11
C104.P111.DIRun	94	DI	Controller 3	1	10
C104.P102.DO	94	DO	Controller 3		
C104.P111.DO	94	DO	Controller 3		
C104.P110.DO	94	DO	Controller 3		
C104.FV101.AO	94	AO	Controller 3	4	02
C104.LV004.AO	94	AO	Controller 3	4	01
C104.FV107.AO	94	AO	Controller 3	3	03
C104.TV104.AO	94	AO	Controller 3	4	00
C104.TV107.AO	94	AO	Controller 3		
C104.PV11=06.AO	94	AO	Controller 3		
C104.LV107.AO	94	AO	Controller 3		
C104.TT104.AI	94	AI	Controller 3	1	00
C104.LT107.AI	94	AI	Controller 3		
C104.LT104.AI	94	AI	Controller 3		
C104.TT107.AI	94	AI	Controller 3		
C104.LT101.AI	94	AI	Controller 3		
C104.PT106.AI	94	AI	Controller 3		
C104.TT106.AI	94	AI	Controller 3		
C104.FT101.AI	94	AI	Controller 3	2	03
C104.FT107.AI	94	AI	Controller 3	2	02
C104.FSL106.DI	94	DI	Controller 3		



Data Report: Control System IO

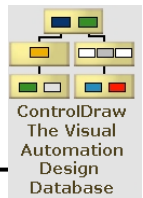
RealTag	External Tag	PCSNode	IO Type	Card	Channel
R101.TT106.AI	TT-106.AI	Controller 1	AI	2	00
R101.TV006.AO	TV-006.AO	Controller 1	AO	5	00
R101.AG102.AO	AG-102.AO	Controller 1	AO	3	01
R101.AG102.DO	AG-102.DO	Controller 1	DO		
R101.AG102.DIClosed	AG-102.DIClosed	Controller 1	DI	1	14
R101.P104.DO	P-104.DO	Controller 1	DO		
R101.P104.DIRun	P-104.DIRun	Controller 1	DI	1	13
R101.XV105.DOXS	XV-105.DOXS	Controller 1	DO		
R101.XV105.DIZSC	XV-105.DIZSC	Controller 1	DI	1	06
R101.LT101.AI	LT-101.AI	Controller 1	AI	1	03
R101.LSHH203.DI		Controller 1	DI		
R102.TT106.AI	TT-106.AI	Controller 2	AI	1	02
R102.TV006.AO	TV-006.AO	Controller 2	AO	4	03
R102.AG102.AO	AG-102.AO	Controller 2	AO	3	00
R102.AG102.DO	AG-102.DO	Controller 2	DO		
R102.AG102.DIClosed	AG-102.DIClosed	Controller 2	DI	1	15
R102.P104.DO	P-104.DO	Controller 2	DO		
R102.P104.DIRun	P-104.DIRun	Controller 2	DI	1	12
R102.XV105.DOXS	XV-105.DOXS	Controller 2	DO		
R102.XV105.DIZSC	XV-105.DIZSC	Controller 2	DI	1	01
R102.LT101.AI	LT-101.AI	Controller 2	AI	1	01
R102.LSHH203.DI		Controller 2	DI		
C104.FT101.AI	FT-101.AI	Controller 3	AI	2	03
C104.FV101.AO	FV-101.AO	Controller 3	AO	4	02
C104.P102.DO	P-102.DO	Controller 3	DO		
C104.P102.DIRun	P-102.DIRun	Controller 3	DI	1	11
C104.LV004.AO	LV-004.AO	Controller 3	AO	4	01
C104.P111.DO	P-111.DO	Controller 3	DO		
C104.P111.DIRun	P-111.DIRun	Controller 3	DI	1	10
C104.TV104.AO	TV-104.AO	Controller 3	AO	4	00
C104.TT104.AI	TT-104.AI	Controller 3	AI	1	00
C104.FT107.AI	FT-107.AI	Controller 3	AI	2	02
C104.FV107.AO	FV-107.AO	Controller 3	AO	3	03
C104.LT107.AI	LT-107.AI	Controller 3	AI		
C104.P110.DO	P-110.DO	Controller 3	DO		
C104.P110.DIRun	P-110.DIRun	Controller 3	DI		
C104.LV107.AO	LV-107.AO	Controller 3	AO		
C104.LT104.AI	LT-104.AI	Controller 3	AI		
C104.TV107.AO	TV-107.AO	Controller 3	AO		
C104.TT107.AI	TT-107.AI	Controller 3	AI		
C104.LT101.AI	LT-101.AI	Controller 3	AI		
C104.PV11=06.AO	PV-11=06.AO	Controller 3	AO		
C104.FSL106.DI	FSL-106.DI	Controller 3	DI		
C104.PT106.AI	PT-106.AI	Controller 3	AI		
C104.TT106.AI	TT-106.AI	Controller 3	AI		
CR101.XV001.DOXS	XV-001.DOXS	Controller 1	DO		
CR101.XV001.DIZSC	XV-001.DIZSC	Controller 1	DI	1	00
CR101.XV001.DIZSO	XV-001.DIZSO	Controller 1	DI	1	07
CR101.FV003.AO	FV-003.AO	Controller 1	AO	3	02
CR101.FT003.AI	FT-003.AI	Controller 1	AI	2	01

Demo IS5.6



RealTag	External Tag	PCSNode	IO Type	Card	Channel
CR101.P003.DO	P-003.DO	Controller 1	DO		
CR101.P003.DIRun	P-003.DIRun	Controller 1	DI	1	09
CR101.XV004A.DOXS	XV-004A.DOXS	Controller 1	DO		
CR101.XV004A.DIZSC	XV-004A.DIZSC	Controller 1	DI	1	02
CR101.XV004B.DOXS	XV-004B.DOXS	Controller 1	DO		
CR101.XV004B.DIZSC	XV-004B.DIZSC	Controller 1	DI	1	03
CR101.XV004C.DOXS	XV-004C.DOXS	Controller 1	DO		
CR101.XV004C.DIZSC	XV-004C.DIZSC	Controller 1	DI	1	04
CR101.XV002.DOXS	XV-002.DOXS	Controller 1	DO		
CR101.XV002.DIZSC	XV-002.DIZSC	Controller 1	DI	1	05
CR101.XV002.DIZSO	XV-002.DIZSO	Controller 1	DI	1	08

Control Draw 2008

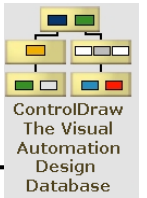


Data Report: Interlock Control Module

ObjectTag	Page Tag	RealTag	DataVersion	External Tag	Hazard Level	SIL Level	Alarmed
UC	UC102	R101.UC102	12		Low	1	<input type="checkbox"/>
UC	UC104	R101.UC104	12				<input type="checkbox"/>
UC	UC102	R102.UC102	12		Low	1	<input type="checkbox"/>
UC	UC104	R102.UC104	12				<input type="checkbox"/>
UC	UC104	C104.UC104	42				<input type="checkbox"/>
UC	UC110	C104.UC110	42				<input type="checkbox"/>
UC	UC102	C104.UC102	51				<input type="checkbox"/>
UC	UC111	C104.UC111	51				<input type="checkbox"/>
UC	UC003	CR101.UC003	27				<input type="checkbox"/>

Control Draw 2008

Demo IS5.6

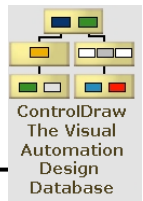


Data Report: Measurement Analog

RealTag	Scan rate Secs	IType	ScaleMin	ScaleMax	EngUnits	AlarmLLSP	AlarmLSP	AlarmHHSP	AlarmHSP	PCSNode	TrendGroup	TrendNo
R101.TT106	1	TT	0	100		0	0	99	95	Controller 1		
R101.LT101	1	LT	0	100		0	0	99	95	Controller 1		
R102.TT106	1	TT	0	100		0	0	99	95	Controller 2		
R102.LT101	1	LT	0	100		0	0	99	95	Controller 2		
C104.FT101	1	FT	0	100		0	0	99	95	Controller 3		
C104.TT104	1	TT	0	100		0	0	99	95	Controller 3		
C104.FT107	1	FT	0	100		0	0	99	95	Controller 3		
C104.LT107	1	LT	0	100		0	0	99	95	Controller 3		
C104.LT104	1	LT	0	100		0	0	99	95	Controller 3		
C104.TT107	1	TT	0	100		0	0	99	95	Controller 3		
C104.LT101	1	LT	0	100		0	0	99	95	Controller 3		
C104.PT106	1	PT	0	100		0	0	99	95	Controller 3		
C104.TT106	1	TT	0	100		0	0	99	95	Controller 3		
CR101.FT003	1	FT	0	100		0	0	99	95	Controller 1	CR101	

Control Draw 2008

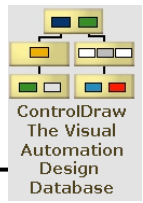
Demo IS5.6



Data Report: Measurement Switch

RealTag	CM Tag	TimeOut	Switch Sense	PCSNode	TrendGroup	TrendNo
R101.LSHH203	LSHH-203	2	<input type="checkbox"/>	Controller 1		
R102.LSHH203	LSHH-203	2	<input type="checkbox"/>	Controller 2		
C104.FSL106	FSL-106	2	<input type="checkbox"/>	Controller 3		

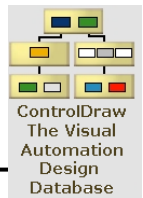
Control Draw 2008



Data Report: Equipment Parameter

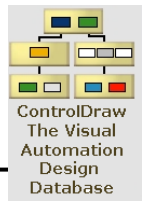
RealTag	DataVersion	PCSNode	Min	Value	Max	AllowChange
R101.epMinPumpLevel	94	Controller 1	0			<input type="checkbox"/>
R101.epMinAgitateLevel	94	Controller 1	0			<input type="checkbox"/>
R101.epEmptyLevel	94	Controller 1	0			<input type="checkbox"/>
R101.epDrainTime	94	Controller 1	0			<input type="checkbox"/>
R102.epMinPumpLevel	94	Controller 2	0			<input type="checkbox"/>
R102.epMinAgitateLevel	94	Controller 2	0			<input type="checkbox"/>
R102.epEmptyLevel	94	Controller 2	0			<input type="checkbox"/>
R102.epDrainTime	94	Controller 2	0			<input type="checkbox"/>

Control Draw 2008



Data Report: Recipe Formula Value

RealTag	External Tag	EU	Min	Value	Max	AllowChange	Scaleable
R101.ph Fill Material A.rpFillQtyA						<input type="checkbox"/>	<input type="checkbox"/>
R101.phHeat.fpCureTemperature						<input type="checkbox"/>	<input type="checkbox"/>
R101.ph Cure.rpCureTime						<input type="checkbox"/>	<input type="checkbox"/>
R101.ph Cure.fpCureTemperature						<input type="checkbox"/>	<input type="checkbox"/>
R101.ph Fill Material B.rpFillQtyB						<input type="checkbox"/>	<input type="checkbox"/>
R101.ph Fill Material C.rpFillQtyC						<input type="checkbox"/>	<input type="checkbox"/>
R102.ph Fill Material A.rpFillQtyA						<input type="checkbox"/>	<input type="checkbox"/>
R102.phHeat.fpCureTemperature						<input type="checkbox"/>	<input type="checkbox"/>
R102.ph Cure.rpCureTime						<input type="checkbox"/>	<input type="checkbox"/>
R102.ph Cure.fpCureTemperature						<input type="checkbox"/>	<input type="checkbox"/>
R102.ph Fill Material B.rpFillQtyB						<input type="checkbox"/>	<input type="checkbox"/>
R102.ph Fill Material C.rpFillQtyC						<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.ph Fill Material A.rpFillQtyA			750		775	<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.phHeat.fpCureTemperature						<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.ph Cure.rpCureTime			150		200	<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.ph						<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.fpCureTemperature		DegC				<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.rpFillQty		litre	750		775	<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.rpCureTime		Minutes	150		200	<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.ph Fill Material B.rpFillQtyB			750		775	<input type="checkbox"/>	<input type="checkbox"/>
RP1.UP 1.ph Fill Material C.rpFillQtyC			750		775	<input type="checkbox"/>	<input type="checkbox"/>
RP1.rp1CureTemperature		DegC		50		<input type="checkbox"/>	<input type="checkbox"/>
RP1.rp1FillQty		litre	750	750	775	<input type="checkbox"/>	<input type="checkbox"/>
RP1.rp1CureTime		Minutes	150	150	200	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.ph Fill Material A.rpFillQtyA			850		875	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.phHeat.fpCureTemperature			50		70	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.ph Cure.rpCureTime			190		229	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.ph			50		70	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.fpCureTemperature		DegC	50		70	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.rpFillQty		litre	850		875	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.rpCureTime		Minutes	190		229	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.ph Fill Material B.rpFillQtyB			850		875	<input type="checkbox"/>	<input type="checkbox"/>
RP2.UP 1.ph Fill Material C.rpFillQtyC			850		875	<input type="checkbox"/>	<input type="checkbox"/>
RP2.rp2CureTemperature		DegC	50	60	70	<input type="checkbox"/>	<input type="checkbox"/>
RP2.rp2FillQty		litre	850	850	875	<input type="checkbox"/>	<input type="checkbox"/>
RP2.rp2CureTime		Minutes	190	199	229	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.ph Fill Material A.rpFillQtyA			950		975	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.phHeat.fpCureTemperature			55		75	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.ph Cure.rpCureTime			990		1000	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.ph			55		75	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.fpCureTemperature		DegC	55		75	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.rpFillQty		litre	950		975	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.rpCureTime		Minutes	990		1000	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.ph Fill Material B.rpFillQtyB			950		975	<input type="checkbox"/>	<input type="checkbox"/>
RP3.UP 1.ph Fill Material C.rpFillQtyC			950		975	<input type="checkbox"/>	<input type="checkbox"/>
RP3.rp3CureTemperature		DegC	55	60	75	<input type="checkbox"/>	<input type="checkbox"/>
RP3.rp3FillQty		litre	950	950	975	<input type="checkbox"/>	<input type="checkbox"/>
RP3.rp3CureTime		Minutes	990	990	1000	<input type="checkbox"/>	<input type="checkbox"/>



Control Draw 2008