

Identification

Device

Article number 3UF7 010-1A*00-0
Short code SIMOCODE pro V
Manufacturer SIEMENS AG
PNO profile
Device family Load feeder
Device subfamily Motor Management System
Device class
Identification number
HW version
FW version
Revision counter
IaM version
Supported IaM data
Timestamp

Marking

Plant identifier 1CRF002MO
Location designation C5.1
Installation date
Description COOLING TOWER 1 CIRCULATING PUMP 2

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Device Configuration

Basic Unit SIMOCODE pro V
Version V1.1
Thermistor no

Modules

Current Measurement 63 - 630A
Digital Module 1 monostable
Digital Module 2 -
Operator Panel yes
Voltage Measurement yes
Display voltage Phase voltage
Temperature Module 1 no
Temperature Module 2 no
Analog Module 1 no
Analog Module 2 no
Earth Fault Module -
Initialization Module no
Multifunction module no
Configuration Fault because of missing Operator Panel yes
Application (Control Function) Soft starter

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PROFIBUS Parameters

Interface type	PROFIBUS
Station Address	43
PROFIsafe address	0
Baud rate	1.5 Mbps
Start-up parameter block	yes

Diagnosis

Diagnosis triggered by device fault	yes
Diagnosis triggered by trip	yes
Diagnosis triggered by warning	yes
Diagnosis triggered by event	no

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Motor Protection

Reset

Manual

Overload/Unbalance/Stall

Overload Protection

Set Current Is1	379.60 A
Transformation ratio - active	no
Transformation ratio - primary	0.000
Transformation ratio - secondary	0
Set Current Is2	0.00 A
Transformation ratio - active	no
Transformation ratio - primary	0.000
Transformation ratio - secondary	0
Class	25
Response at Trip Level	tripping
Cooling Down Period	300.0 s
Pause Time	0.0 s
Type of Load	tri-phase
Response at Pre-Warning Level (I>115%Is)	warning
Pre-Alarm Delay (I>115%Is)	0.5 s

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Motor Control

Control Station

Operation Mode Selector

S1 Counter 1 - Output
S2 Fixed Level - '1'

Local Control [LC]

On<< Not connected
On< Not connected
Off DM1 - Input 2
On> DM1 - Input 1
On>> Not connected

PLC/DCS [DP]

On<< Not connected
On< Not connected
Off Cyclic Receive - Bit 0.1
On> Cyclic Receive - Bit 0.2
On>> Not connected

PC [DPV1]

On<< Not connected
On< Not connected
Off Not connected
On> Not connected
On>> Not connected

Operator Panel [OP]

◇/<◇◇ Not connected
On< Not connected
Off OP - Button 4
On> OP - Button 3
On>> Not connected

Releases Local 1

Local Control [LC] - On disabled
Local Control [LC] - Off disabled
PLC/DCS [DP] - On disabled
PLC/DCS [DP] - Off disabled
PC [DPV1] - On disabled

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PC [DPV1] - Off	disabled
Operator Panel [OP] - On	disabled
Operator Panel [OP] - Off	disabled

Releases Local 2

Local Control [LC] - On	enabled
Local Control [LC] - Off	enabled
PLC/DCS [DP] - On	disabled
PLC/DCS [DP] - Off	disabled
PC [DPV1] - On	disabled
PC [DPV1] - Off	disabled
Operator Panel [OP] - On	disabled
Operator Panel [OP] - Off	disabled

Releases Local 3

Local Control [LC] - On	disabled
Local Control [LC] - Off	disabled
PLC/DCS [DP] - On	disabled
PLC/DCS [DP] - Off	disabled
PC [DPV1] - On	disabled
PC [DPV1] - Off	disabled
Operator Panel [OP] - On	disabled
Operator Panel [OP] - Off	disabled

Releases Remote

Local Control [LC] - On	disabled
Local Control [LC] - Off	disabled
PLC/DCS [DP] - On	enabled
PLC/DCS [DP] - Off	enabled
PC [DPV1] - On	disabled
PC [DPV1] - Off	disabled
Operator Panel [OP] - On	disabled
Operator Panel [OP] - Off	disabled

Control Function

Operating Mode

Non-Maintained Command Mode	no
Saving Change-Over Command	no
DM-F LOCAL/PROFIsafe - Separate function from control function	no

Type of Consumer Load	Motor
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Control Commands

On<<	Not connected
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On<	Not connected
Off	Released Control Command - Off
On>	Released Control Command - On>
On>>	Not connected

Auxiliary Control Inputs

Feedback On	Status - Motor Current Flowing
Feedback Closed (FC)	Not connected
Feedback Open (F0)	Not connected
Torque Closed (TC)	Not connected
Torque Open (TO)	Not connected

Timings

Feedback Time	3.0 s
Execution Time	10.0 s
Interlocking Time	0 s
Change-over pause	0.00 s

Star-delta

Max. Star Time	20 s
Current Measuring Module installed	Delta

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Monitoring Functions

Current Limits

I > (upper limit)

Trip Level	0 % of Is
Response at Trip Level	disabled
Trip Delay	0.5 s
Warning Level	0 % of Is
Response at Warning Level	disabled
Warning Delay	0.5 s

I < (lower limit)

Trip Level	0 % of Is
Response at Trip Level	disabled
Trip Delay	0.5 s
Warning Level	0 % of Is
Response at Warning Level	disabled
Warning Delay	0.5 s
Hysteresis for Current Limits	5 % of adjusted level

Voltage

U < (lower limit)

Trip Level	176 V
Trip Level active status	if motor runs, except TPF (run)
Response at Trip Level	tripping
Trip Delay	4.0 s
Warning Level	0 V
Warning Level active status	always, except TPF (on+)
Response at Warning Level	disabled
Warning Delay	0.5 s
Hysteresis for Voltage, Cos-Phi, Power	5 % of adjusted level
Type of load for Gathering of Voltage, Cos-Phi, Power	tri-phase

Cos-Phi

Cos-Phi < (lower limit)

Trip Level	0 %
Response at Trip Level	disabled

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Trip Delay	0.5 s
Warning Level	0 %
Response at Warning Level	disabled
Warning Delay	0.5 s

Active Power

P > (upper limit)

Trip Level	0.000 kW
Response at Trip Level	disabled
Trip Delay	0.5 s
Warning Level	0.000 kW
Response at Warning Level	disabled
Warning Delay	0.5 s

P < (lower limit)

Trip Level	0.000 kW
Response at Trip Level	disabled
Trip Delay	0.5 s
Warning Level	0.000 kW
Response at Warning Level	disabled
Warning Delay	0.5 s

Operating Hours Monitoring

Motor Operating Hours Monitoring

Level	0 h
Response	disabled

Motor Stop Time Monitoring

Level	0 h
Response	disabled

Monitoring the Number of Starts

Permissible Starts	1
Time Range for Starts	00:00:00 hh:mm:ss
Response at Overshoot	disabled
Response at Pre-Warning	disabled
Interlocking Time	00:00:00 hh:mm:ss

Earth Fault

Internal Earth Fault

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Response
Delay

disabled
0.5 s

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Inputs

Basic Unit - Inputs

Delays 16 ms

Digital Modules - Inputs

Delays 16 ms

Analog Module 1 - Inputs

Input Signal 0-20mA
Response at Open Circuit warning
Active Inputs 1 Input

Temperature Module 1 - Inputs

Sensor type PT100
Response at Sensor Fault/ Out of Range warning
Active Sensors 3 Sensors

Analog Module 2 - Inputs

Input Signal 0-20mA
Response at Open Circuit warning
Active Inputs 1 input

Temperature Module 2 - Inputs

Sensor type PT100
Response at Sensor Fault/ Out of Range warning
Active Sensors 3 sensors

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Outputs

Basic Unit

BU - Output 1	Truth Table 1 3I/1O - Output
BU - Output 2	Truth Table 5 3I/1O - Output
BU - Output 3	Not connected

Operator Panel LEDs

LED green 1	Signal Conditioner 1 - Output
LED green 2	Not connected
LED green 3	Indication - QLE> (On>)
LED green 4	Indication - QLA (Off)
LED yellow 1	Event - External Fault 1
LED yellow 2	Not connected
LED yellow 3	Not connected

Digital Module 1

DM - Output 1	Truth Table 3 3I/1O - Output
DM - Output 2	Truth Table 7 2I/1O - Output

Cyclic Send Data

Byte 0

Bit 0	BU - Input 1
Bit 1	Status - Off
Bit 2	Status - On>
Bit 3	Event - Overload Operation (I>115%Is)
Bit 4	Not connected
Bit 5	Status - Remote Mode
Bit 6	Status - General Fault
Bit 7	Status - General Warning

Byte 1

Bit 0	Not connected
Bit 1	Not connected
Bit 2	Not connected
Bit 3	Not connected
Bit 4	Not connected
Bit 5	Not connected
Bit 6	Not connected
Bit 7	Not connected

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Byte 2/3 (Analog Value)	max. Current I _{max} (% of Is)
Input 1: "Byte 4/5"	Not connected
Input 2: "Byte 6/7"	Not connected
Input 3: "Byte 8/9"	Not connected
Input 1: "Byte 10/11"	Not connected
Input 2: "Byte 12/13"	Not connected
Input 3: "Byte 14/15"	Not connected
Input 4: "Byte 16/17"	Not connected
Input 5: "Byte 18/19"	Not connected

Acyclic Send Data

Byte 0

Bit 0	Not connected
Bit 1	Not connected
Bit 2	Not connected
Bit 3	Not connected
Bit 4	Not connected
Bit 5	Not connected
Bit 6	Not connected
Bit 7	Not connected

Byte 1

Bit 0	Not connected
Bit 1	Not connected
Bit 2	Not connected
Bit 3	Not connected
Bit 4	Not connected
Bit 5	Not connected
Bit 6	Not connected
Bit 7	Not connected

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Standard Functions

Test/ Reset

Test/Reset - Buttons blocked no

Test 1

Test - Input Cyclic Receive - Bit 0.3

Test 2

Test - Input Not connected

Reset 1

Reset - Input Cyclic Receive - Bit 0.6

Reset 2

Reset - Input Not connected

Reset 3

Reset - Input Not connected

Test Position Feedback (TPF)

Type normally open (NO)

Test Position Feedback (TPF) - Input Not connected

External Fault

External Fault 1

External Fault - Input DM1 - Input 3
External Fault - Reset OP - Test/ Reset Button
Response tripping
Type normally closed (NC)
Active status always
External Fault - Reset also by Test/Reset Button, RS232 (Panel Reset), Remote Reset, Reset 1,2,3
Marking

External Fault 2

External Fault - Input BU - Input 1
External Fault - Reset OP - Test/ Reset Button
Response signalling
Type normally closed (NC)

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Active status always
 External Fault - Reset also by Marking Test/Reset Button, RS232 (Panel Reset), Remote Reset, Reset 1,2,3

External Fault 3

External Fault - Input Truth Table 6 3I/1O - Output
 External Fault - Reset OP - Test/ Reset Button
 Response warning
 Type normally open (NO)
 Active status always
 External Fault - Reset also by Marking Test/Reset Button, RS232 (Panel Reset), Remote Reset, Reset 1,2,3

External Fault 4

External Fault - Input Not connected
 External Fault - Reset Not connected
 Response signalling
 Type normally open (NO)
 Active status always
 External Fault - Reset also by Marking Test/Reset Button, RS232 (Panel Reset), Remote Reset, Reset 1,2,3

External Fault 5

External Fault - Input Not connected
 External Fault - Reset Not connected
 Response signalling
 Type normally open (NO)
 Active status always
 External Fault - Reset also by Marking Test/Reset Button, RS232 (Panel Reset), Remote Reset, Reset 1,2,3

External Fault 6

External Fault - Input Not connected
 External Fault - Reset Not connected
 Response signalling
 Type normally open (NO)
 Active status always
 External Fault - Reset also by Marking Test/Reset Button, RS232 (Panel Reset), Remote Reset, Reset 1,2,3

Operational Protection Off (OPO)

Operational Protection Off - Input Not connected
 Reaction positioner closed
 Type normally open (NO)

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Power Failure Monitoring (UVO)

Power Failure Monitoring - Method deactivated
Power Failure Time 0.0 s
Restart Time Delay 0 s
Addressing external Power Failure Monitoring Not connected

Emergency Start

Emergency Start - Input Cyclic Receive - Bit 0.4

Watchdog (PLC/DCS Monitoring)

Bus Monitoring yes
PLC/DCS Monitoring - Input Not connected
PLC/DCS Monitoring yes
Bus/PLC-Fault - Reset Manual

Timestamping

Timestamping active no
Timestamping - Input 0 Not connected
Timestamping - Input 1 Not connected
Timestamping - Input 2 Not connected
Timestamping - Input 3 Not connected
Timestamping - Input 4 Not connected
Timestamping - Input 5 Not connected
Timestamping - Input 6 Not connected
Timestamping - Input 7 Not connected

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Logic Modules

Truth Table 3I/1O

Truth Table 1 3I/1O

Truth Table - Input 1 BU - Input 2
Truth Table - Input 2 Contactor Control - 4 QE4
Truth Table - Input 3 Not connected

Logic

I1	I2	I3	O1
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

Truth Table 2 3I/1O

Truth Table - Input 1 BU - Input 2
Truth Table - Input 2 Contactor Control - 4 QE4
Truth Table - Input 3 Signal Conditioner 2 - Output

Logic

I1	I2	I3	O1
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

Truth Table 3 3I/1O

Truth Table - Input 1 OP - Test/ Reset Button
Truth Table - Input 2 BU - Test/ Reset Button
Truth Table - Input 3 Not connected

Logic

I1	I2	I3	O1
0	0	0	0
0	0	1	0
0	1	0	1

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I1	I2	I3	O1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	0

Truth Table 4 3I/1O

Truth Table - Input 1 BU - Input 2
 Truth Table - Input 2 Contactor Control - 4 QE4
 Truth Table - Input 3 Not connected

Logic

I1	I2	I3	O1
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	0

Truth Table 5 3I/1O

Truth Table - Input 1 Truth Table 2 3I/1O - Output
 Truth Table - Input 2 Truth Table 4 3I/1O - Output
 Truth Table - Input 3 Not connected

Logic

I1	I2	I3	O1
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	0

Truth Table 6 3I/1O

Truth Table - Input 1 DM1 - Input 4
 Truth Table - Input 2 BU - Input 4
 Truth Table - Input 3 Not connected

Logic

I1	I2	I3	O1
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	0

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I1	I2	I3	O1
1	0	1	0
1	1	0	0
1	1	1	0

Truth Table 2I/1O

Truth Table 7 2I/1O

Truth Table - Input 1 Counter 1 - Output
Truth Table - Input 2 Counter 2 - Output

Logic

I1	I2	O1
0	0	0
0	1	1
1	0	0
1	1	0

Truth Table 8 2I/1O

Truth Table - Input 1 Not connected
Truth Table - Input 2 Not connected

Logic

I1	I2	O1
0	0	0
0	1	0
1	0	0
1	1	0

Truth Table 5I/2O

Truth Table 9 5I/2O

Truth Table - Input 1 Not connected
Truth Table - Input 2 Not connected
Truth Table - Input 3 Not connected
Truth Table - Input 4 Not connected
Truth Table - Input 5 Not connected

Logic Output 1 Logic Output 2

I1	I2	I3	I4	I5	O1	O2
0	0	0	0	0	0	0
0	0	0	0	1	0	0
0	0	0	1	0	0	0
0	0	0	1	1	0	0
0	0	1	0	0	0	0
0	0	1	0	1	0	0
0	0	1	1	0	0	0
0	0	1	1	1	0	0

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I1	I2	I3	I4	I5	O1	O2
0	1	0	0	0	0	0
0	1	0	0	1	0	0
0	1	0	1	0	0	0
0	1	0	1	1	0	0
0	1	1	0	0	0	0
0	1	1	0	1	0	0
0	1	1	1	0	0	0
0	1	1	1	1	0	0
1	0	0	0	0	0	0
1	0	0	0	1	0	0
1	0	0	1	0	0	0
1	0	0	1	1	0	0
1	0	1	0	0	0	0
1	0	1	0	1	0	0
1	0	1	1	0	0	0
1	0	1	1	1	0	0
1	1	0	0	0	0	0
1	1	0	0	1	0	0
1	1	0	1	0	0	0
1	1	0	1	1	0	0
1	1	1	0	0	0	0
1	1	1	0	1	0	0
1	1	1	1	0	0	0
1	1	1	1	1	0	0
1	1	1	1	0	0	0
1	1	1	1	1	0	0

Counter

Counter 1

Counter - Limit 1
Counter - Input + OP - Button 1
Counter - Input - Not connected
Counter - Reset Counter 2 - Output

Counter 2

Counter - Limit 2
Counter - Input + OP - Button 1
Counter - Input - Not connected
Counter - Reset Truth Table 7 2I/1O - Output

Counter 3

Counter - Limit 0
Counter - Input + Not connected
Counter - Input - Not connected
Counter - Reset Not connected

Counter 4

Counter - Limit 0
Counter - Input + Not connected

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Counter - Input - Not connected
Counter - Reset Not connected

Timer

Timer 1

Timer - Type with closing delay
Timer - Limit 0.0 s
Timer - Input Not connected
Timer - Reset Not connected

Timer 2

Timer - Type with closing delay
Timer - Limit 0.0 s
Timer - Input Not connected
Timer - Reset Not connected

Timer 3

Timer - Type with closing delay
Timer - Limit 0.0 s
Timer - Input Not connected
Timer - Reset Not connected

Timer 4

Timer - Type with closing delay
Timer - Limit 0.0 s
Timer - Input Not connected
Timer - Reset Not connected

Signal Conditioner

Signal Conditioner 1

Signal Conditioner - Type inverting
Signal Conditioner - Input Counter 1 - Output
Signal Conditioner - Reset Not connected

Signal Conditioner 2

Signal Conditioner - Type edge rising with memory
Signal Conditioner - Input BU - Input 3
Signal Conditioner - Reset Status - Off

Signal Conditioner 3

Signal Conditioner - Type non inverting

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Signal Conditioner - Input Not connected
Signal Conditioner - Reset Not connected

Signal Conditioner 4

Signal Conditioner - Type non inverting
Signal Conditioner - Input Not connected
Signal Conditioner - Reset Not connected

Non-Volatile Element

Non-Volatile Element 1

Non-Volatile Element - Type non inverting
Non-Volatile Element - Input Not connected
Non-Volatile Element - Reset Not connected

Non-Volatile Element 2

Non-Volatile Element - Type non inverting
Non-Volatile Element - Input Not connected
Non-Volatile Element - Reset Not connected

Non-Volatile Element 3

Non-Volatile Element - Type non inverting
Non-Volatile Element - Input Not connected
Non-Volatile Element - Reset Not connected

Non-Volatile Element 4

Non-Volatile Element - Type non inverting
Non-Volatile Element - Input Not connected
Non-Volatile Element - Reset Not connected

Flashing

Flashing 1

Flashing - Input Not connected

Flashing 2

Flashing - Input Not connected

Flashing 3

Flashing - Input Not connected

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Flickering

Flickering 1

Flickering - Input Not connected

Flickering 2

Flickering - Input Not connected

Flickering 3

Flickering - Input Not connected

Limit Monitor

Hysteresis for Limit Monitors 5 % of adjusted level

Limit Monitor 1

Limit Monitor - Input Not connected
Type > (Overshoot)
Active status always (on)
Limit 0
Delay 0.5 s
Marking

Limit Monitor 2

Limit Monitor - Input Not connected
Type > (Overshoot)
Active status always (on)
Limit 0
Delay 0.5 s
Marking

Limit Monitor 3

Limit Monitor - Input Not connected
Type > (Overshoot)
Active status always (on)
Limit 0
Delay 0.5 s
Marking

Limit Monitor 4

Limit Monitor - Input Not connected
Type > (Overshoot)
Active status always (on)

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Limit

Delay

Marking

0

0.5 s

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3UF50 - Compatibility Mode

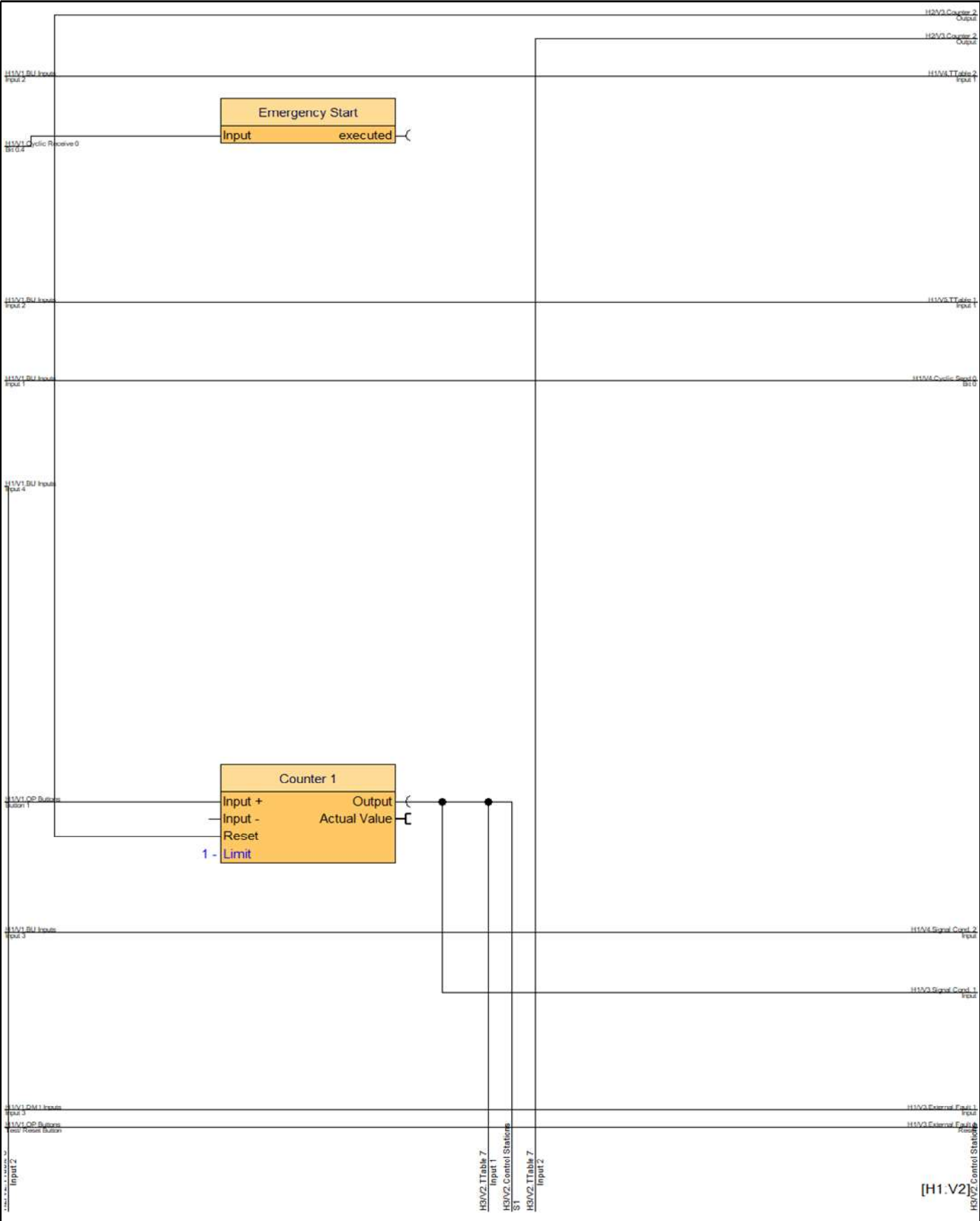
3UF50 - Compatibility Modeno
3UF50 - Operating ModeDPV0
3UF50 - Basic Type1

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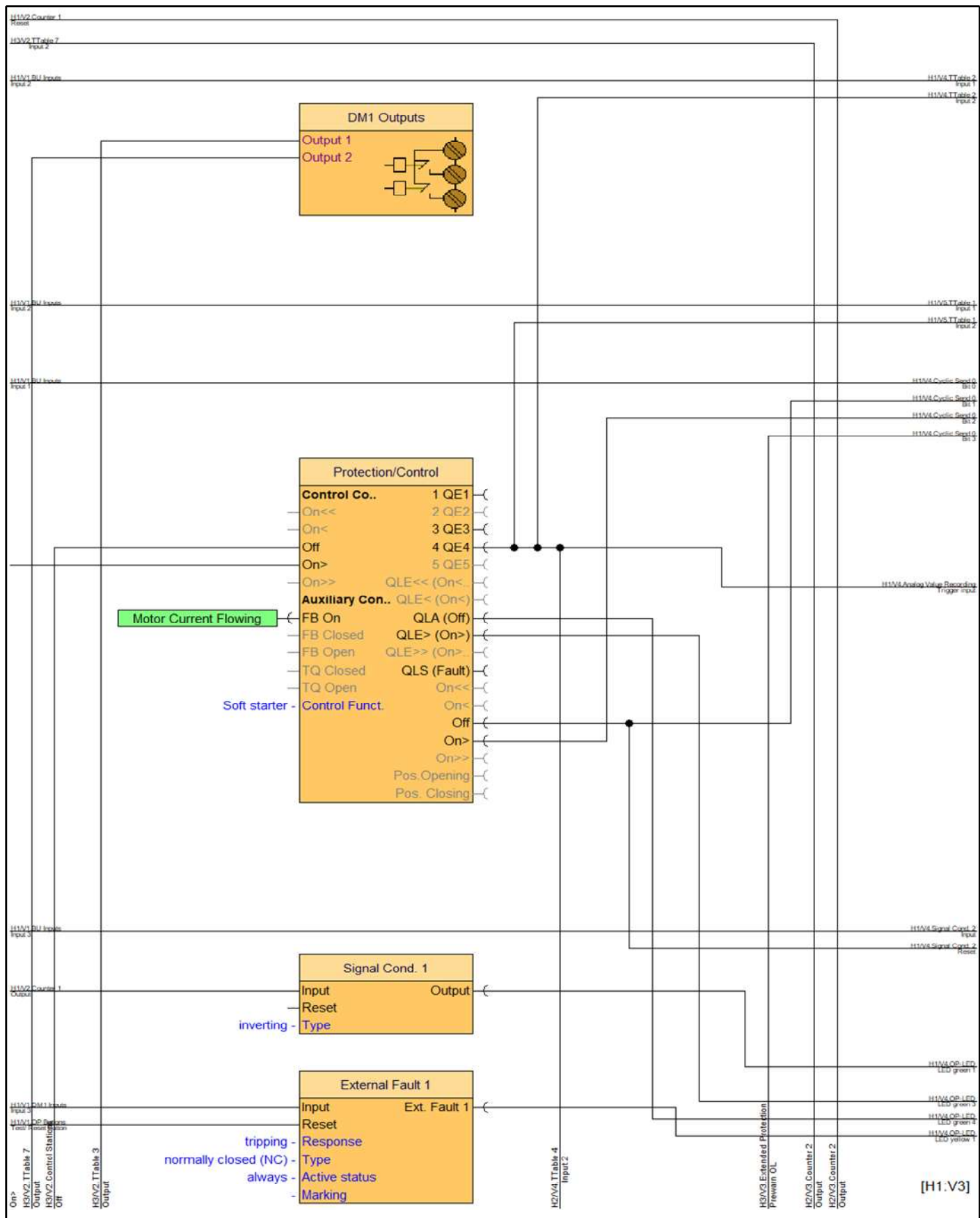
Analog Value Recording

Trigger input	Contactor Control - 4 QE4
Assigned analog value	Current I _{L1} (% of Is)
Trigger edge	positive
Sampling rate	1.0 s
Pre-trigger	0 %

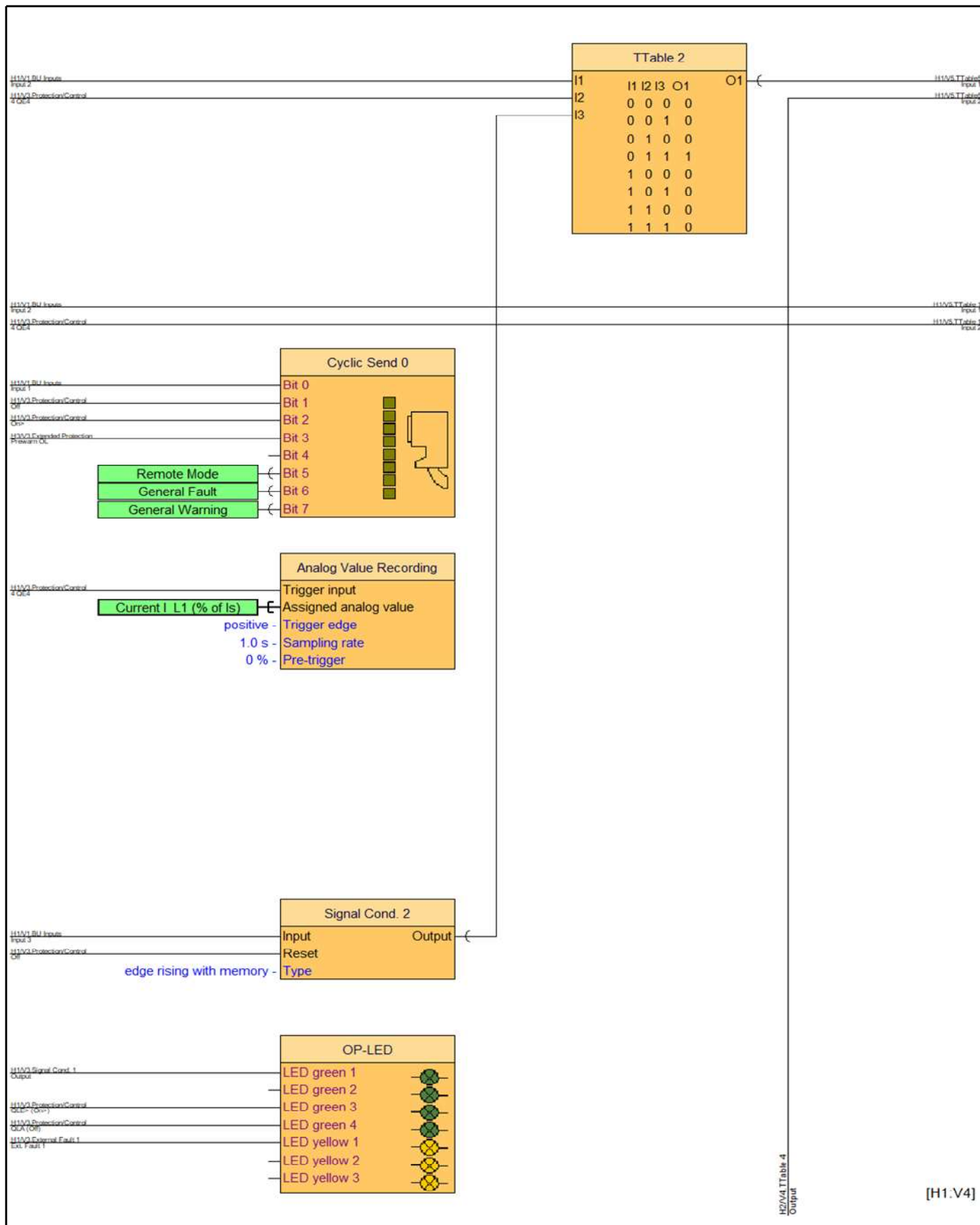
<u>Dept. resp.:</u>	<u>Technical reference:</u>	<u>Document type:</u>	<u>Document status:</u>			
<u>Owner:</u>	<u>Created by:</u>	<u>Title:</u>	<u>Item no.:</u>			
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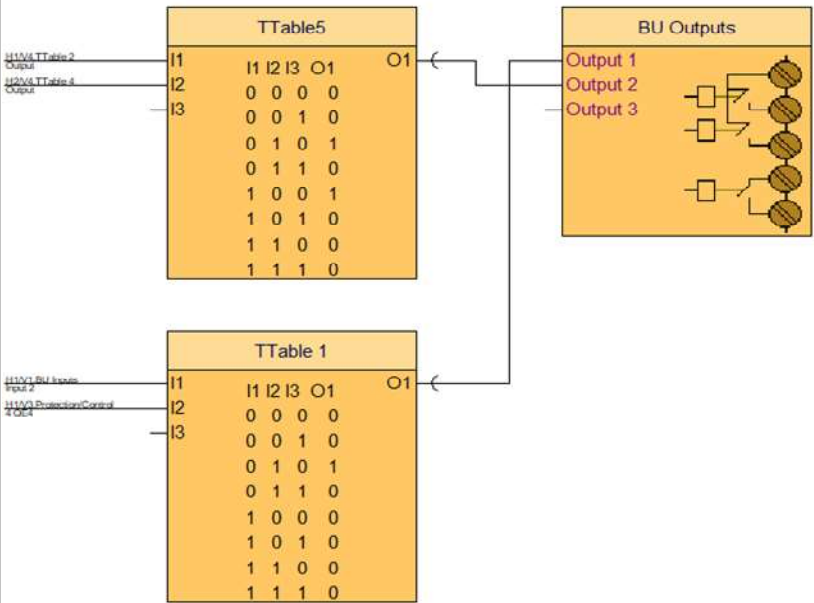
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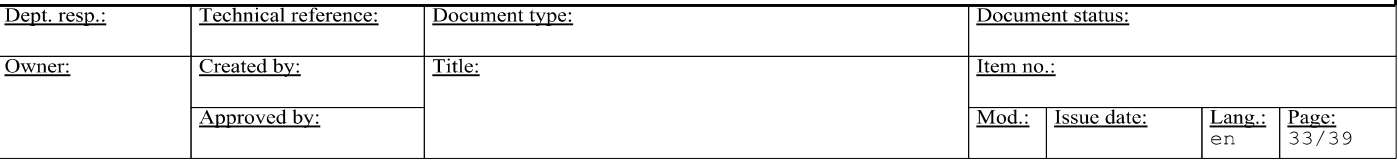
Dept. resp.:	Technical reference:	Document type:	Document status:
Owner:	Created by:	Title:	Item no.:
	Approved by:		Mod.:
			Issue date:
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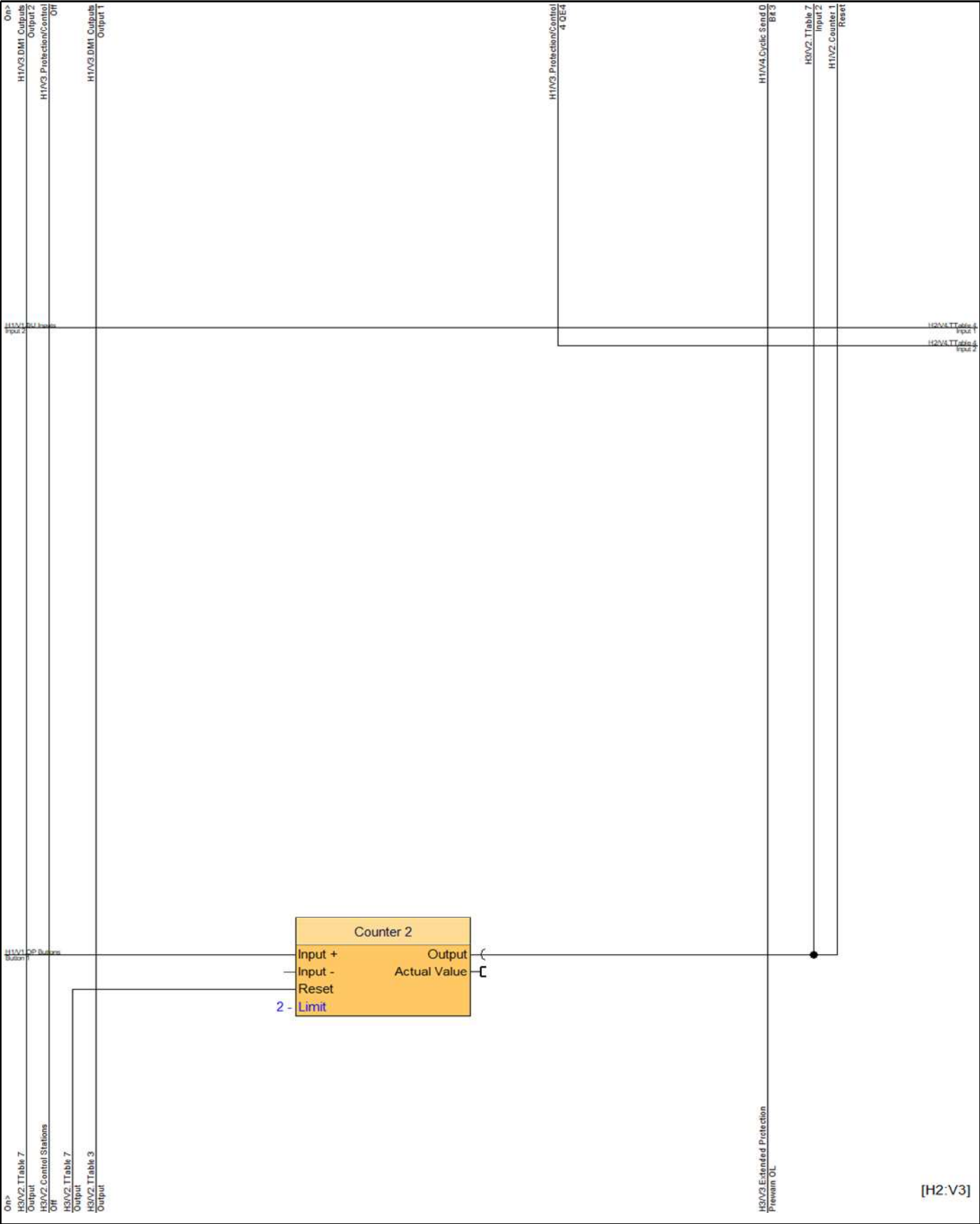


[H1.V5]

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[illegible]





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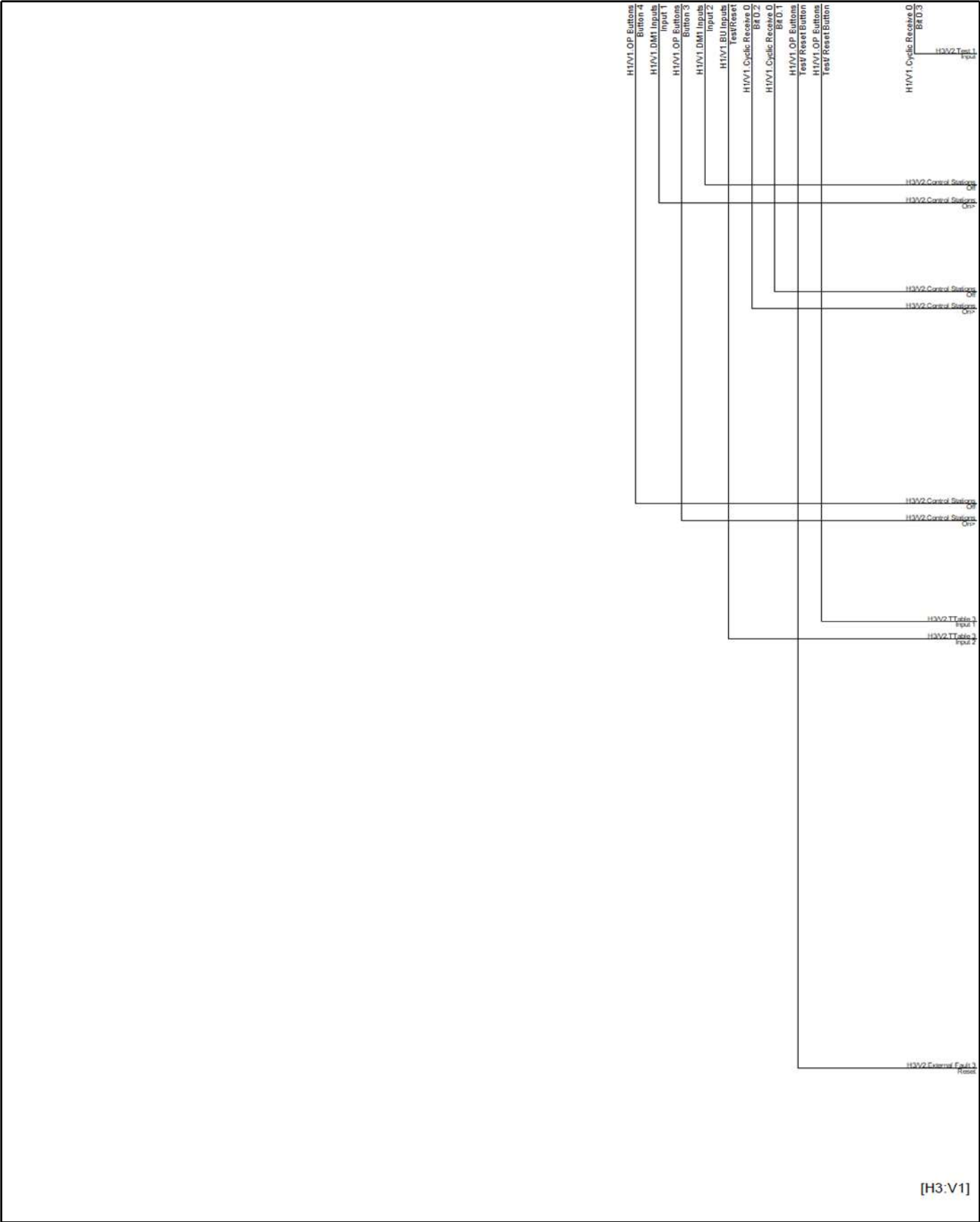
H1/V5: TTable5
Input 2

H1/V1: BU Table
Input 2
H1/V2: ProtectionControl
TTable

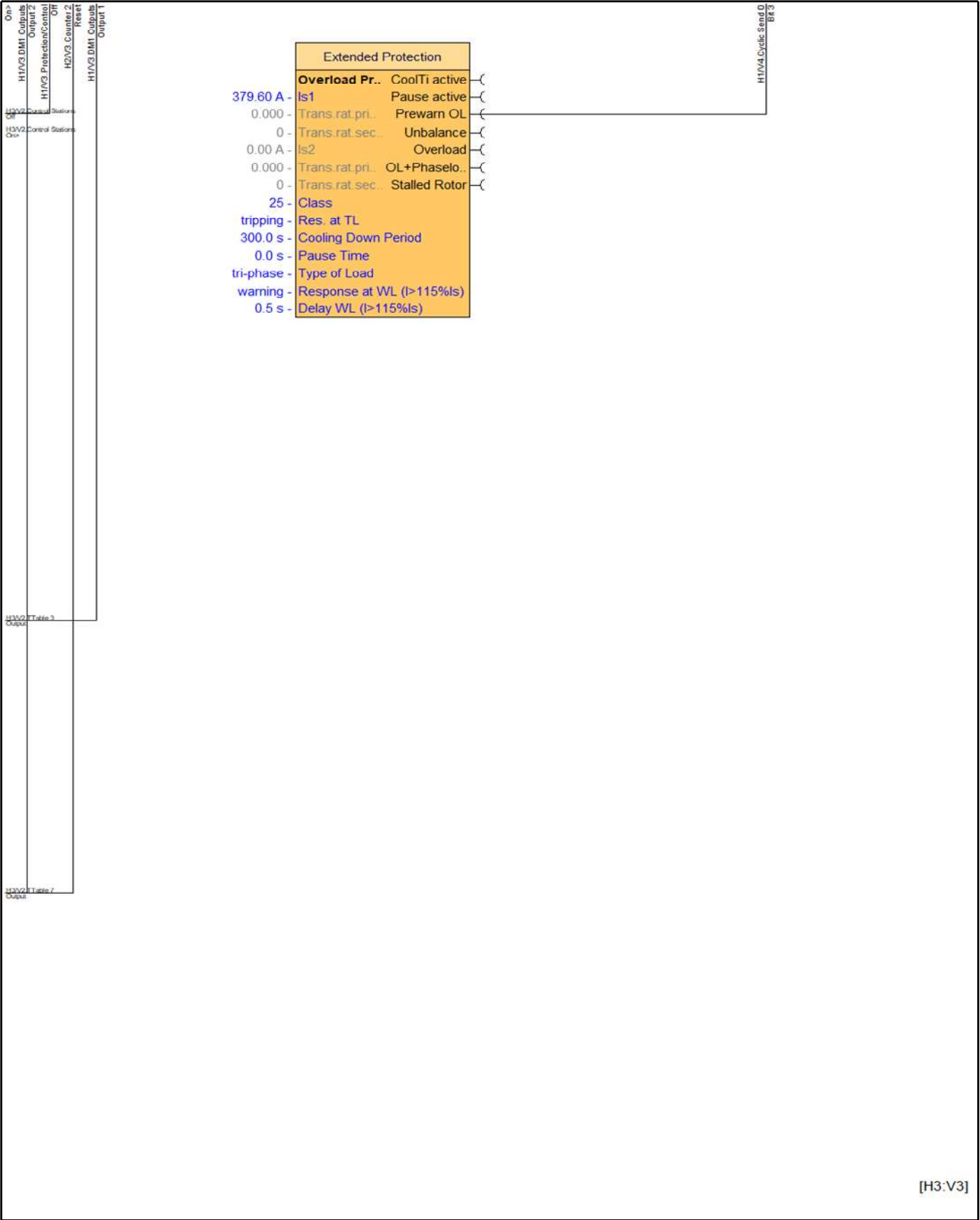
TTable 4					
I1	I1	I2	I3	O1	O1
I2	0	0	0	0	
I3	0	0	1	0	
	0	1	0	0	
	0	1	1	0	
	1	0	0	0	
	1	0	1	0	
	1	1	0	1	
	1	1	1	0	

[H2:V4]

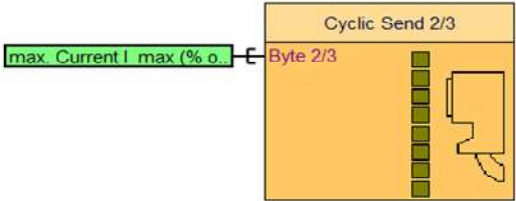
<u>Dept. resp.:</u>	<u>Technical reference:</u>	<u>Document type:</u>	<u>Document status:</u>			
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[H4:V1]

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