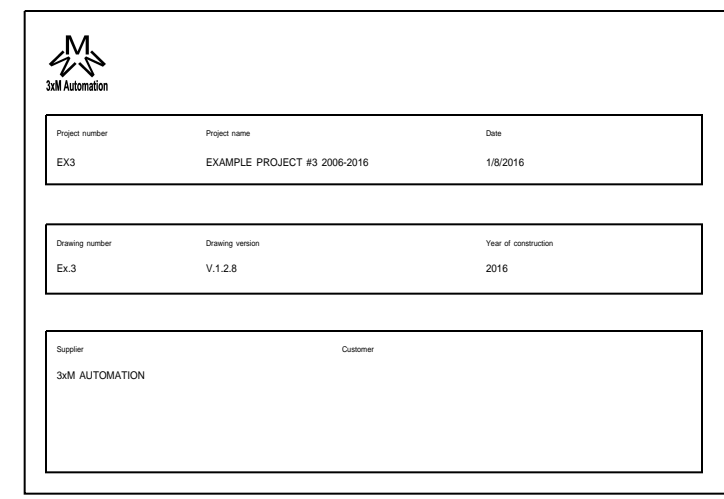


Project number	Project name	Date
EX3	EXAMPLE PROJECT #3 2006-2016	1/8/2016

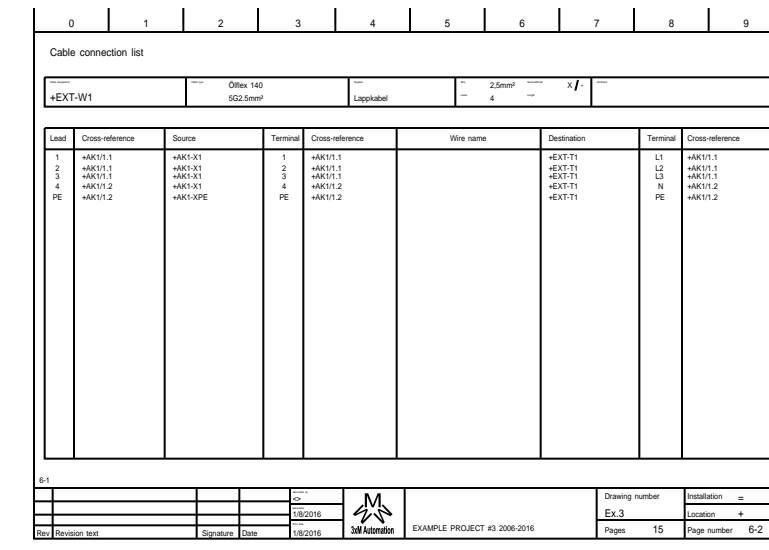
Drawing number	Drawing version	Year of construction
Ex.3	V.1.2.8	2016

Supplier	Customer
3xM AUTOMATION	

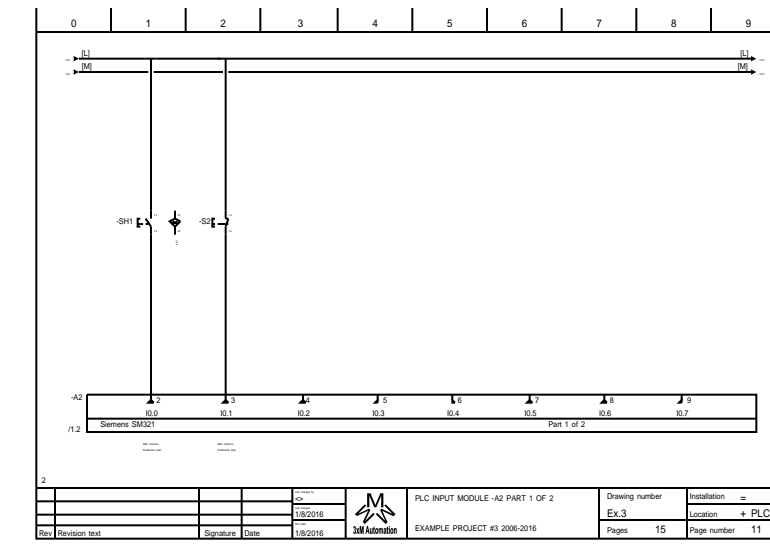
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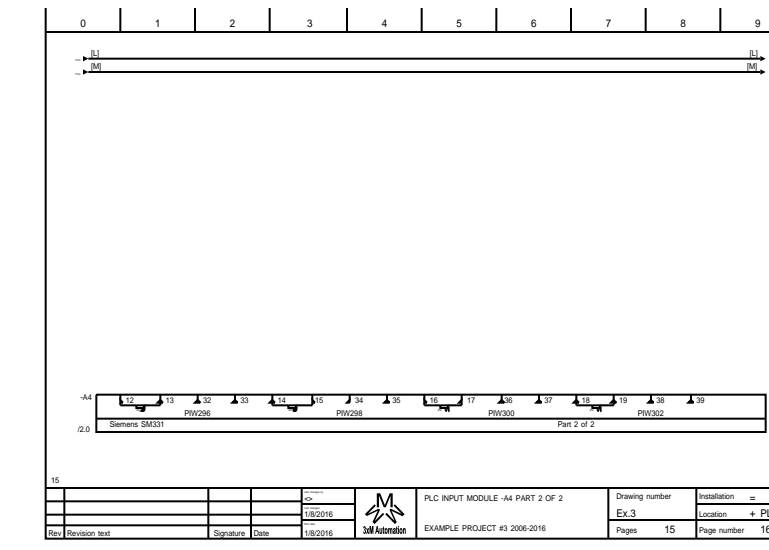
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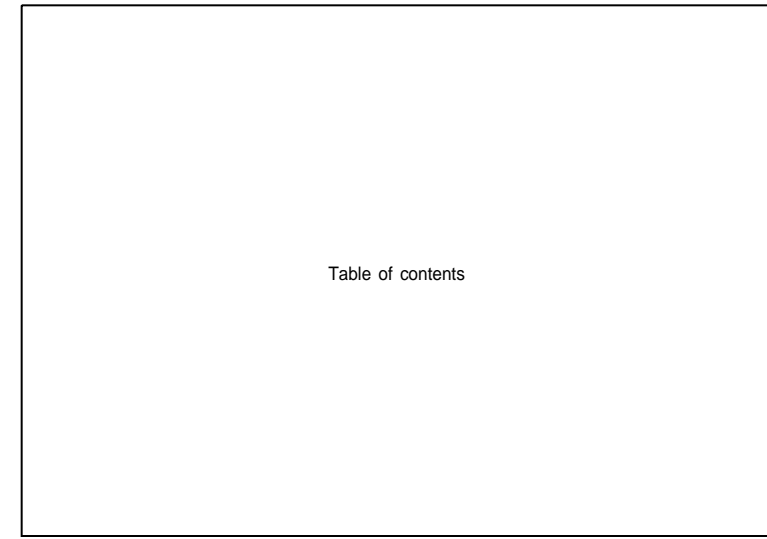
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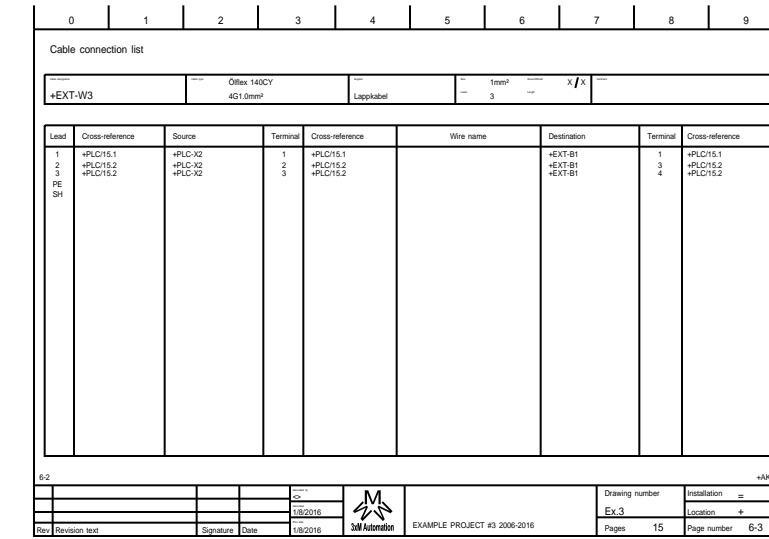
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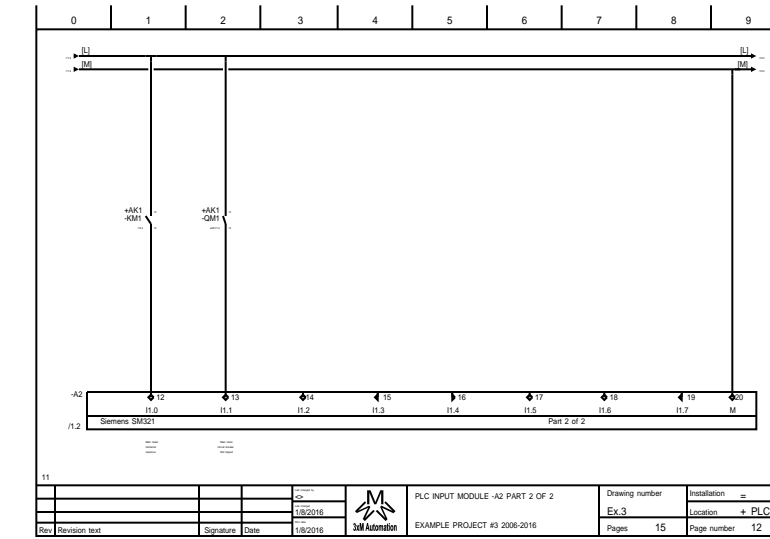
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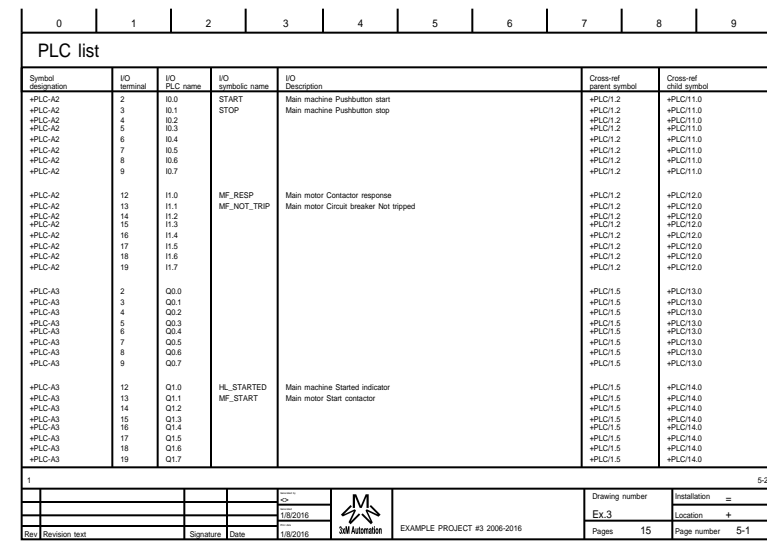
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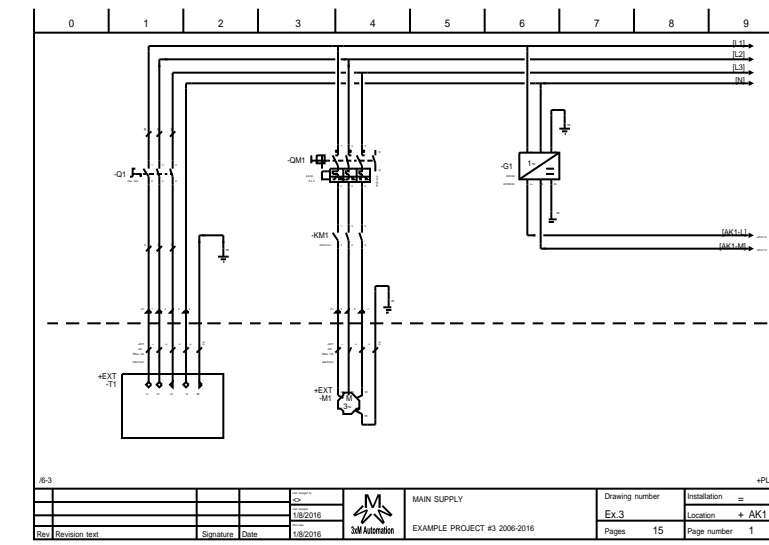
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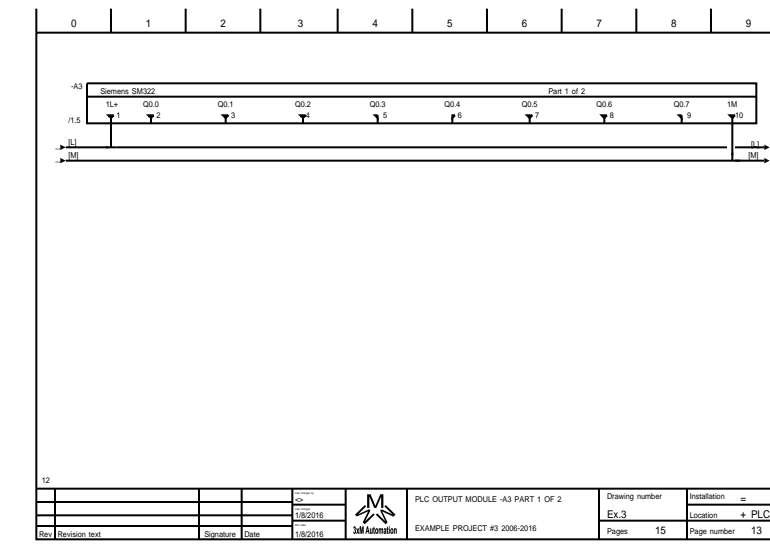
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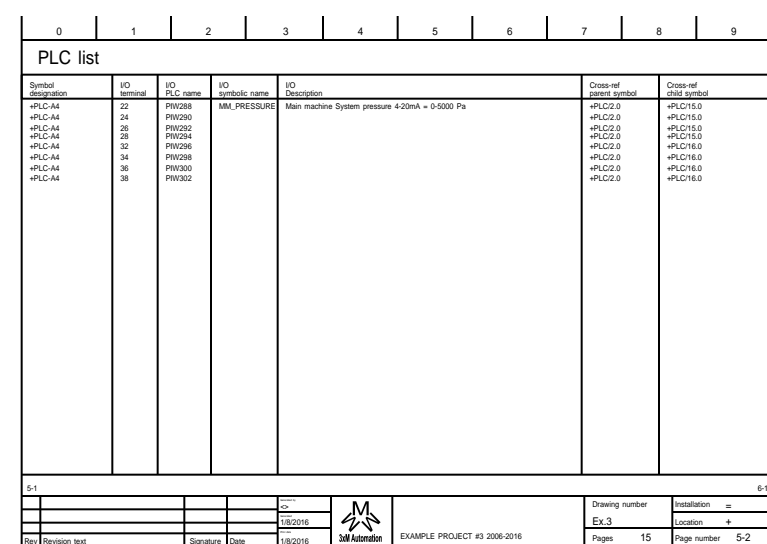
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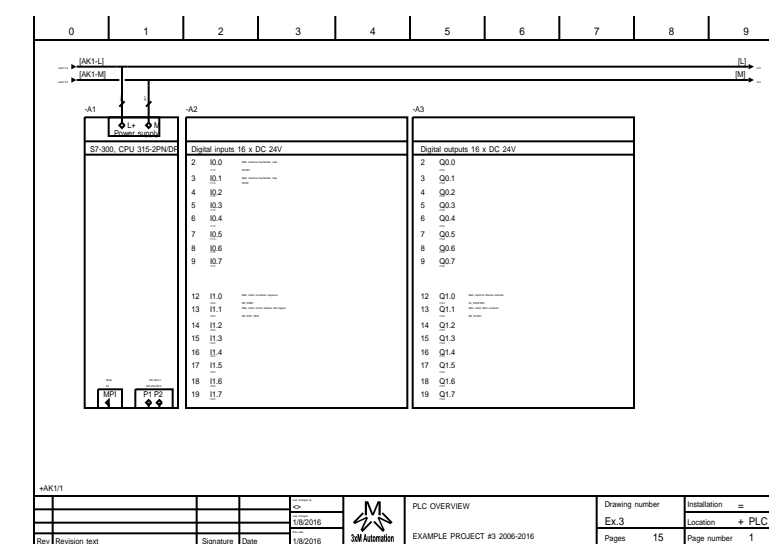
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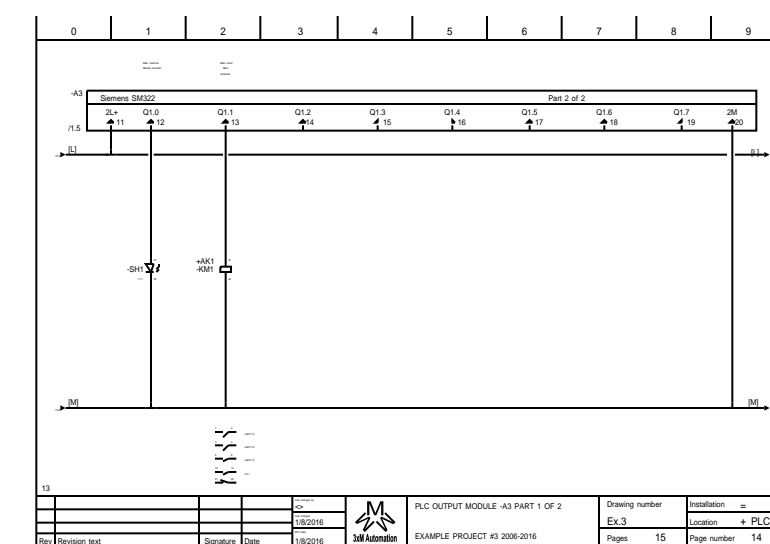
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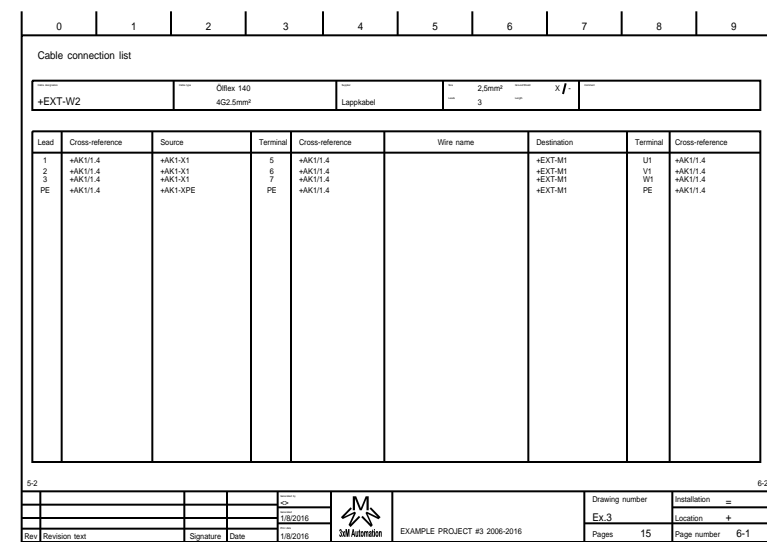
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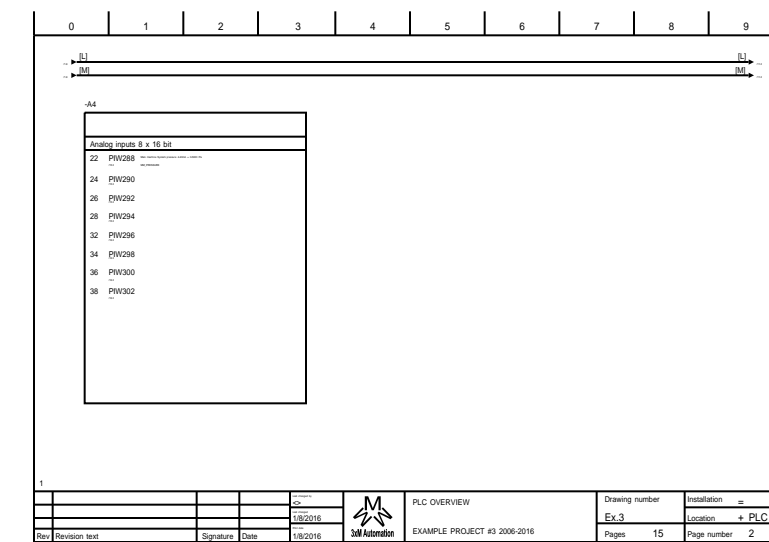
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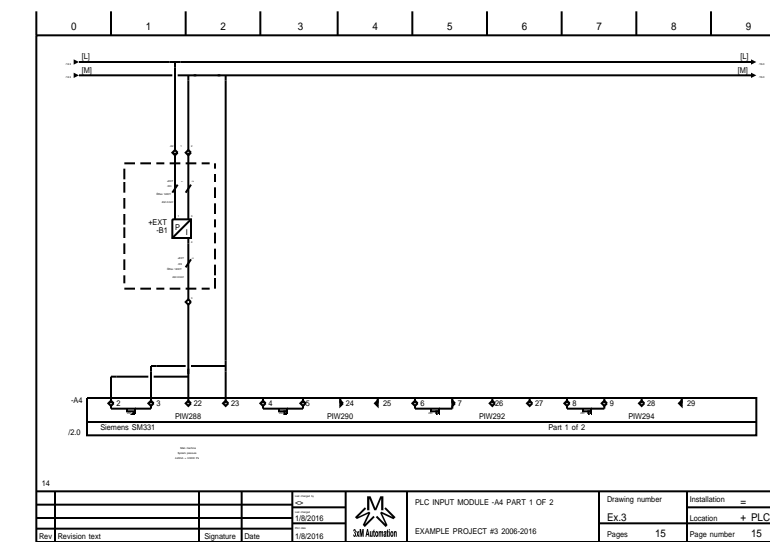
+PLC/14



6-1



+PLC/2



+PLC/15

Rev	Revision text	Signature	Date
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Generated	1/8/2016
Print date	1/8/2016

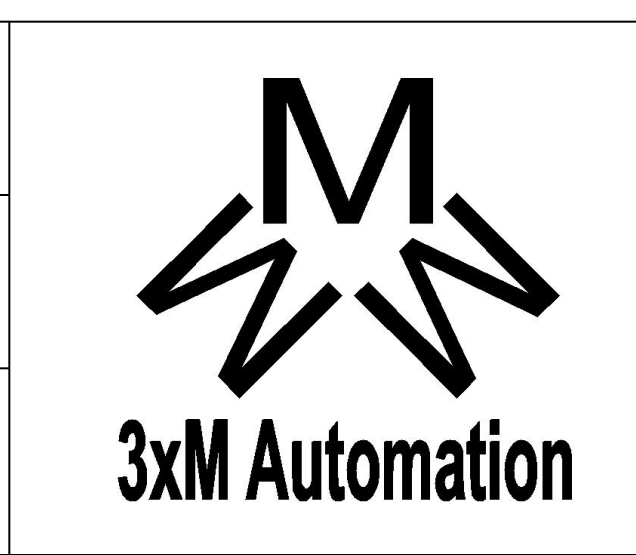


TABLE OF CONTENTS
EXAMPLE PROJECT #3 2006-2016

Drawing number	Ex.3
Pages	17

Installation	=
Location	+
Page number	2-1

0

1

2

3

4

5

6

7

8

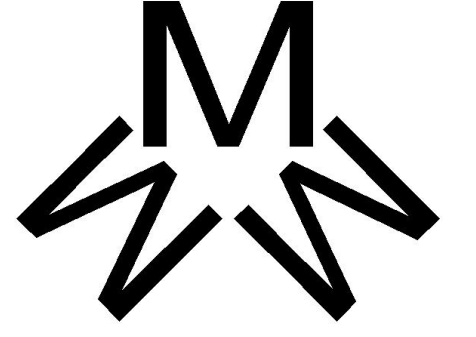
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PLC list

Symbol designation	I/O terminal	I/O PLC name	I/O symbolic name	I/O Description	Cross-ref parent symbol	Cross-ref child symbol
+PLC-A2	2	I0.0	START	Main machine Pushbutton start	+PLC/1.2	+PLC/11.0
+PLC-A2	3	I0.1	STOP	Main machine Pushbutton stop	+PLC/1.2	+PLC/11.0
+PLC-A2	4	I0.2			+PLC/1.2	+PLC/11.0
+PLC-A2	5	I0.3			+PLC/1.2	+PLC/11.0
+PLC-A2	6	I0.4			+PLC/1.2	+PLC/11.0
+PLC-A2	7	I0.5			+PLC/1.2	+PLC/11.0
+PLC-A2	8	I0.6			+PLC/1.2	+PLC/11.0
+PLC-A2	9	I0.7			+PLC/1.2	+PLC/11.0
+PLC-A2	12	I1.0	MF_RESP	Main motor Contactor response	+PLC/1.2	+PLC/12.0
+PLC-A2	13	I1.1	MF_NOT_TRIP	Main motor Circuit breaker Not tripped	+PLC/1.2	+PLC/12.0
+PLC-A2	14	I1.2			+PLC/1.2	+PLC/12.0
+PLC-A2	15	I1.3			+PLC/1.2	+PLC/12.0
+PLC-A2	16	I1.4			+PLC/1.2	+PLC/12.0
+PLC-A2	17	I1.5			+PLC/1.2	+PLC/12.0
+PLC-A2	18	I1.6			+PLC/1.2	+PLC/12.0
+PLC-A2	19	I1.7			+PLC/1.2	+PLC/12.0
+PLC-A3	2	Q0.0			+PLC/1.5	+PLC/13.0
+PLC-A3	3	Q0.1			+PLC/1.5	+PLC/13.0
+PLC-A3	4	Q0.2			+PLC/1.5	+PLC/13.0
+PLC-A3	5	Q0.3			+PLC/1.5	+PLC/13.0
+PLC-A3	6	Q0.4			+PLC/1.5	+PLC/13.0
+PLC-A3	7	Q0.5			+PLC/1.5	+PLC/13.0
+PLC-A3	8	Q0.6			+PLC/1.5	+PLC/13.0
+PLC-A3	9	Q0.7			+PLC/1.5	+PLC/13.0
+PLC-A3	12	Q1.0	HL_STARTED	Main machine Started indicator	+PLC/1.5	+PLC/14.0
+PLC-A3	13	Q1.1	MF_START	Main motor Start contactor	+PLC/1.5	+PLC/14.0
+PLC-A3	14	Q1.2			+PLC/1.5	+PLC/14.0
+PLC-A3	15	Q1.3			+PLC/1.5	+PLC/14.0
+PLC-A3	16	Q1.4			+PLC/1.5	+PLC/14.0
+PLC-A3	17	Q1.5			+PLC/1.5	+PLC/14.0
+PLC-A3	18	Q1.6			+PLC/1.5	+PLC/14.0
+PLC-A3	19	Q1.7			+PLC/1.5	+PLC/14.0

2-1

5-2

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				Generated 1/8/2016			Ex.3	Location +
Rev	Revision text	Signature	Date	Print date 1/8/2016		EXAMPLE PROJECT #3 2006-2016	Pages 17	Page number 5-1

0

1

2

3

4

5

6

7

8

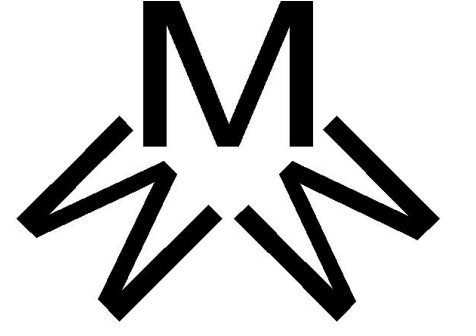
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PLC list

Symbol designation	I/O terminal	I/O PLC name	I/O symbolic name	I/O Description	Cross-ref parent symbol	Cross-ref child symbol
+PLC-A4	22	PIW288	MM_PRESSURE	Main machine System pressure 4-20mA = 0-5000 Pa	+PLC/2.0	+PLC/15.0
+PLC-A4	24	PIW290			+PLC/2.0	+PLC/15.0
+PLC-A4	26	PIW292			+PLC/2.0	+PLC/15.0
+PLC-A4	28	PIW294			+PLC/2.0	+PLC/15.0
+PLC-A4	32	PIW296			+PLC/2.0	+PLC/16.0
+PLC-A4	34	PIW298			+PLC/2.0	+PLC/16.0
+PLC-A4	36	PIW300			+PLC/2.0	+PLC/16.0
+PLC-A4	38	PIW302			+PLC/2.0	+PLC/16.0

5-1

6-1

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				Generated 1/8/2016		Ex.3	Location +
Rev	Revision text	Signature	Date	Print date 1/8/2016		Pages 17	Page number 5-2
					EXAMPLE PROJECT #3 2006-2016		

0

1

2

3

4

5

6

7

8

9

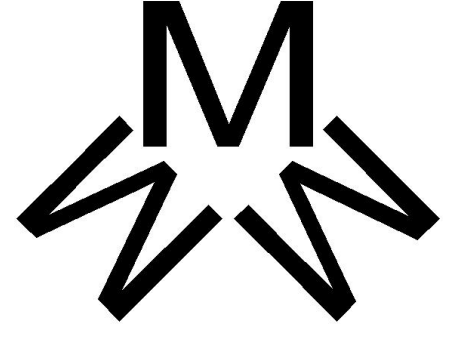
Cable connection list

Cable designation +EXT-W2	Cable type Ölflex 140 4G2.5mm²	Supplier Lappkabel	Size 2,5mm²	Ground/Shield X / -	Comment
			Leads 3	Length	

Lead	Cross-reference	Source	Terminal	Cross-reference	Wire name	Destination	Terminal	Cross-reference
1	+AK1/1.4	+AK1-X1	5	+AK1/1.4		+EXT-M1	U1	+AK1/1.4
2	+AK1/1.4	+AK1-X1	6	+AK1/1.4		+EXT-M1	V1	+AK1/1.4
3	+AK1/1.4	+AK1-X1	7	+AK1/1.4		+EXT-M1	W1	+AK1/1.4
PE	+AK1/1.4	+AK1-XPE	PE	+AK1/1.4		+EXT-M1	PE	+AK1/1.4

5-2

6-2

				Generated by <>		Drawing number	Installation =
				Generated 1/8/2016		Ex.3	Location +
Rev	Revision text	Signature	Date	Print date 1/8/2016		Pages 17	Page number 6-1
EXAMPLE PROJECT #3 2006-2016							

0

1

2

3

4

5

6

7

8

9

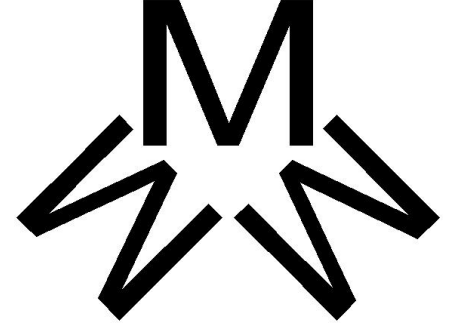
Cable connection list

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			Leads 4	Length	

Lead	Cross-reference	Source	Terminal	Cross-reference	Wire name	Destination	Terminal	Cross-reference
1	+AK1/1.1	+AK1-X1	1	+AK1/1.1		+EXT-T1	L1	+AK1/1.1
2	+AK1/1.1	+AK1-X1	2	+AK1/1.1		+EXT-T1	L2	+AK1/1.1
3	+AK1/1.1	+AK1-X1	3	+AK1/1.1		+EXT-T1	L3	+AK1/1.1
4	+AK1/1.2	+AK1-X1	4	+AK1/1.2		+EXT-T1	N	+AK1/1.2
PE	+AK1/1.2	+AK1-XPE	PE	+AK1/1.2		+EXT-T1	PE	+AK1/1.2

6-1

6-3

				Generated by <>		Drawing number	Installation =
				Generated 1/8/2016		Ex.3	Location +
Rev	Revision text	Signature	Date	Print date 1/8/2016		Pages 17	Page number 6-2

EXAMPLE PROJECT #3 2006-2016

0

1

2

3

4

5

6

7

8

9

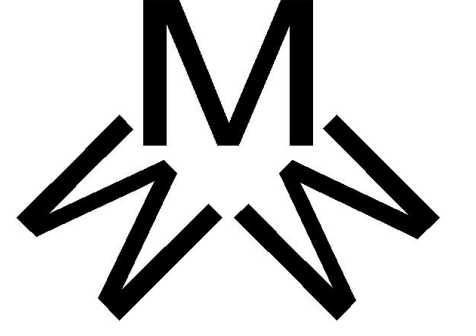
Cable connection list

Cable designation +EXT-W3	Cable type Ölflex 140CY 4G1.0mm²	Supplier Lappkabel	Size 1mm²	Ground/Shield X / X	Comment
			Leads 3	Length	

Lead	Cross-reference	Source	Terminal	Cross-reference	Wire name	Destination	Terminal	Cross-reference
1	+PLC/15.1	+PLC-X2	1	+PLC/15.1		+EXT-B1	1	+PLC/15.1
2	+PLC/15.2	+PLC-X2	2	+PLC/15.2		+EXT-B1	3	+PLC/15.2
3	+PLC/15.2	+PLC-X2	3	+PLC/15.2		+EXT-B1	4	+PLC/15.2
PE								
SH								

6-2

7-1

				Generated by <>		Drawing number	Installation =
				Generated 1/8/2016		Ex.3	Location +
Rev	Revision text	Signature	Date	Print date 1/8/2016		Pages 17	Page number 6-3

EXAMPLE PROJECT #3 2006-2016

0

1

2

3

4

5

6

7

8

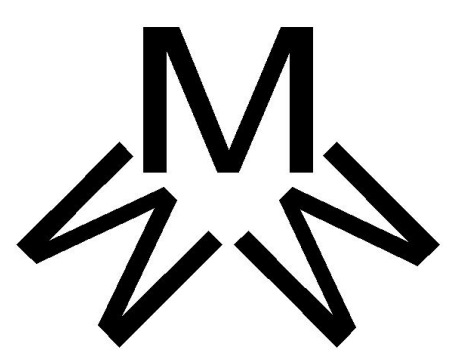
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Bill of material

Symbol designation	Units	Description	Article number Order number	Manufacturer Supplier	Cross-reference
+AK1-G1	1	Power supply PS307, 120/230VAC, out 24VDC/5A	6ES7307-1EA01-0AA0 6ES7307-1EA01-0AA0	Siemens Siemens	+AK1/1.6
+AK1-Q1	1	Main switch, 3-pole, 32A, rear mounting	055484 P1-32/V/SVB-SW	Moeller Electric Moeller Electric	+AK1/1.1
+PLC-A1	1	PROCESSOR S7-300, CPU 315-2PN/DP, 384kB, 24VDC	6ES7315-2EH14-0AB0 6ES7315-2EH14-0AB0	Siemens Siemens	+PLC/1.0
+PLC-A1	1	SIMATIC S7-300, Mounting rail, length 530mm	6ES7390-1AF30-0AA0 6ES7390-1AF30-0AA0	Siemens Siemens	+PLC/1.0
+PLC-A1	1	MMC memory card S7-300/C7/ET200, 64 kB	6ES7953-8LF30-0AA0 6ES7953-8LF30-0AA0	Siemens Siemens	+PLC/1.0
+PLC-A2	1	Input module SM321, DI16, 24VDC	6ES7321-1BH02-0AA0 6ES7321-1BH02-0AA0	Siemens Siemens	+PLC/1.2
+PLC-A2	1	Front connector, screw contacts, 20-pin	6ES7392-1AJ00-0AA0 6ES7392-1AJ00-0AA0	Siemens Siemens	+PLC/1.2
+PLC-A3	1	Output module SM322, DO16, 24VDC/0.5A	6ES7322-1BH01-0AA0 6ES7322-1BH01-0AA0	Siemens Siemens	+PLC/1.5
+PLC-A3	1	Front connector, screw contacts, 20-pin	6ES7392-1AJ00-0AA0 6ES7392-1AJ00-0AA0	Siemens Siemens	+PLC/1.5
+PLC-A4	1	Analog input module SM331, AI8/16bit, mA/V	6ES7331-7NF00-0AB0 6ES7331-7NF00-0AB0	Siemens Siemens	+PLC/2.0
+PLC-A4	1	Front connector, screw contacts, 40-pin	6ES7392-1AM00-0AA0 6ES7392-1AM00-0AA0	Siemens Siemens	+PLC/2.0

6-3

+AK1/1

				Generated by <>	 3xM Automation	Drawing number	Installation =
				Generated 1/8/2016		Ex.3	Location +
Rev	Revision text	Signature	Date	Print date 1/8/2016		Pages 17	Page number 7-1

EXAMPLE PROJECT #3 2006-2016

0

1

2

3

4

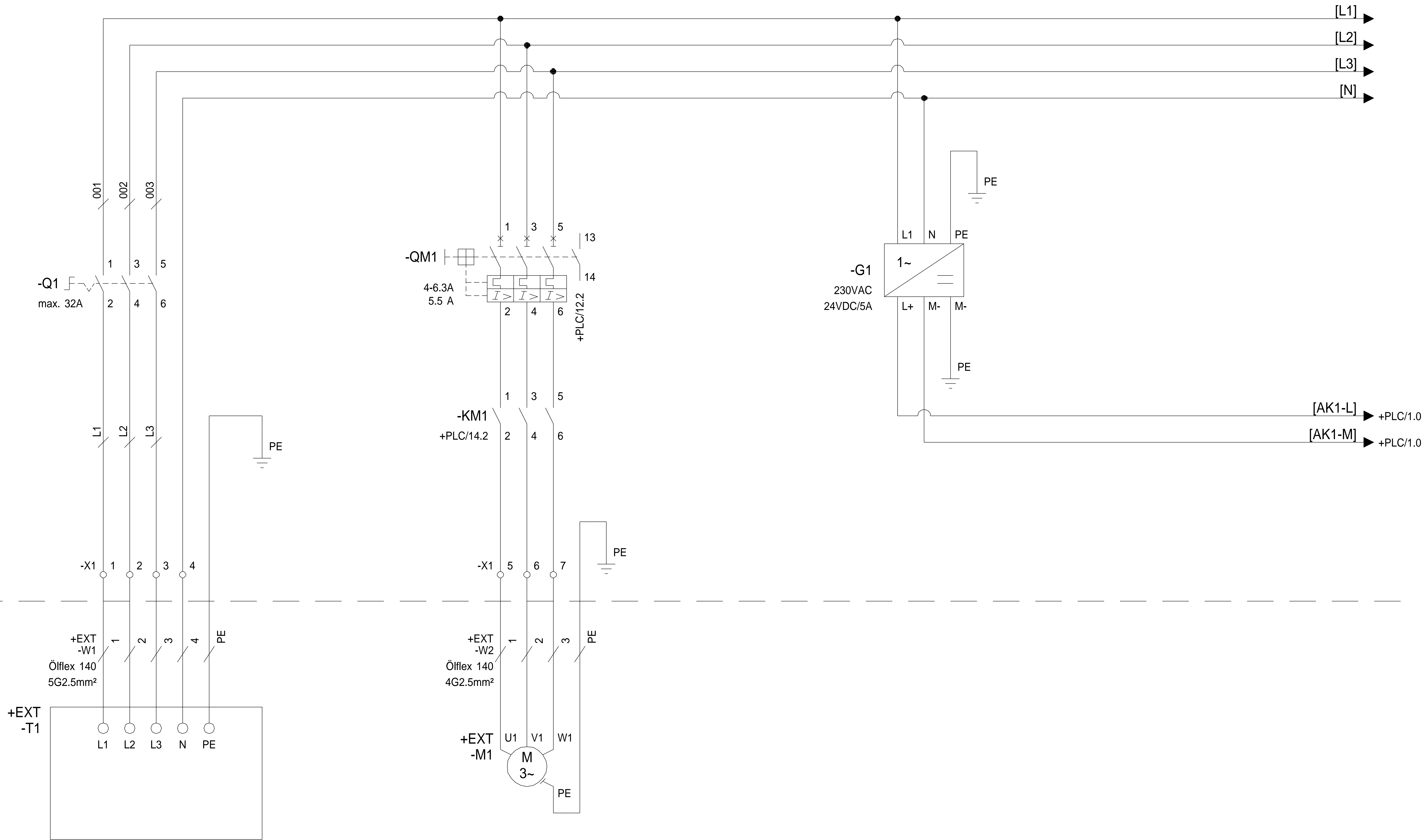
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8

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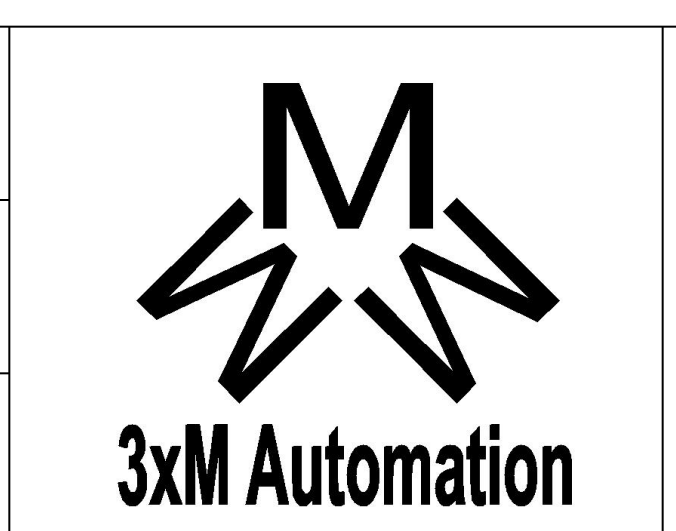


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Rev	Revision text	Signature	Date
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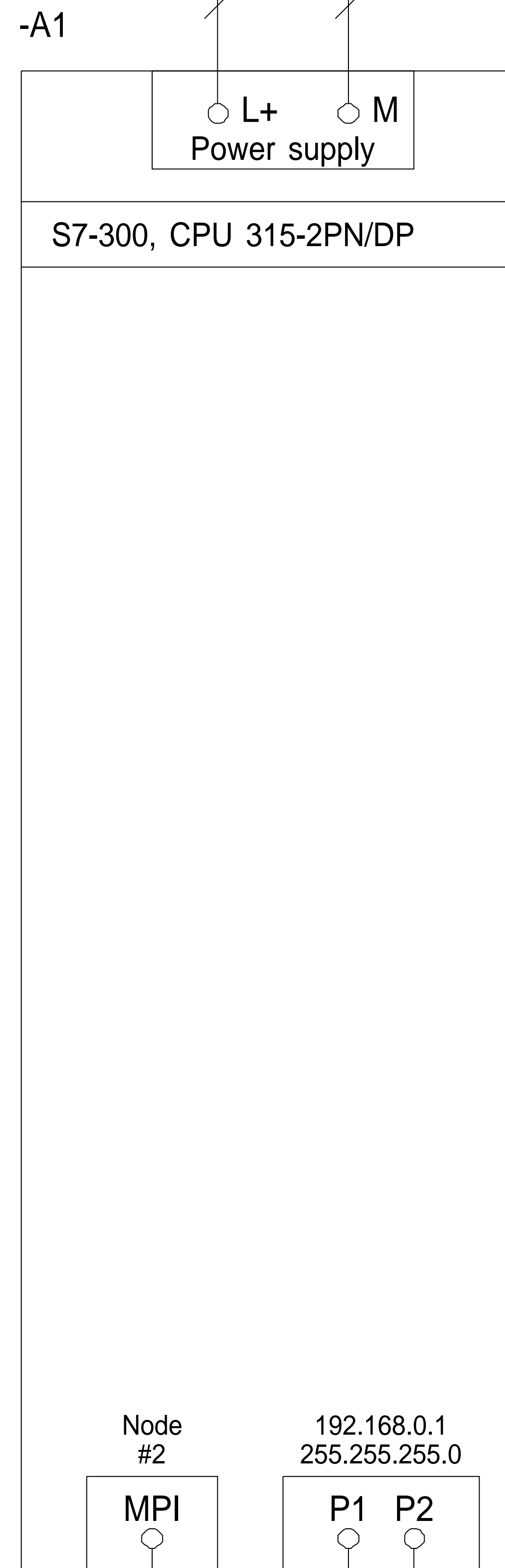
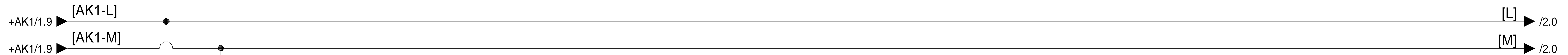
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Last changed	1/8/2016
Print date	1/8/2016



MAIN SUPPLY
EXAMPLE PROJECT #3 2006-2016

Drawing number	Ex.3
Pages	17

Installation	=
Location	+ AK1
Page number	1



-A2

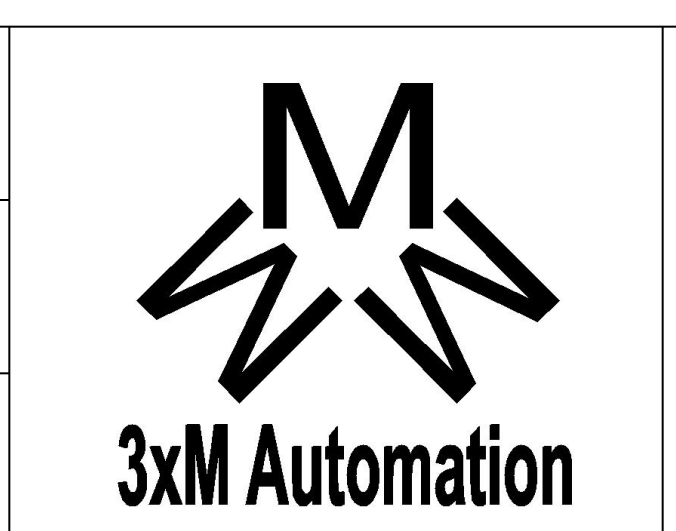
Digital inputs 16 x DC 24V		
2	I0.0 /11.0	Main machine Pushbutton start START
3	I0.1 /11.0	Main machine Pushbutton stop STOP
4	I0.2 /11.0	
5	I0.3 /11.0	
6	I0.4 /11.0	
7	I0.5 /11.0	
8	I0.6 /11.0	
9	I0.7 /11.0	
12	I1.0 /12.0	Main motor Contactor response MF_RESP
13	I1.1 /12.0	Main motor Circuit breaker Not tripped MF_NOT_TRIP
14	I1.2 /12.0	
15	I1.3 /12.0	
16	I1.4 /12.0	
17	I1.5 /12.0	
18	I1.6 /12.0	
19	I1.7 /12.0	

-A3

Digital outputs 16 x DC 24V		
2	Q0.0 /13.0	
3	Q0.1 /13.0	
4	Q0.2 /13.0	
5	Q0.3 /13.0	
6	Q0.4 /13.0	
7	Q0.5 /13.0	
8	Q0.6 /13.0	
9	Q0.7 /13.0	
12	Q1.0 /14.0	Main machine Started indicator HL_STARTED
13	Q1.1 /14.0	Main motor Start contactor MF_START
14	Q1.2 /14.0	
15	Q1.3 /14.0	
16	Q1.4 /14.0	
17	Q1.5 /14.0	
18	Q1.6 /14.0	
19	Q1.7 /14.0	

Rev	Revision text	Signature	Date
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Print date	1/8/2016

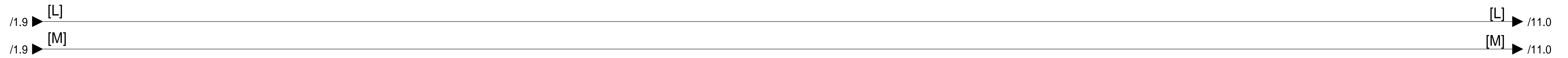


PLC OVERVIEW

EXAMPLE PROJECT #3 2006-2016

Drawing number	Ex.3
Pages	17

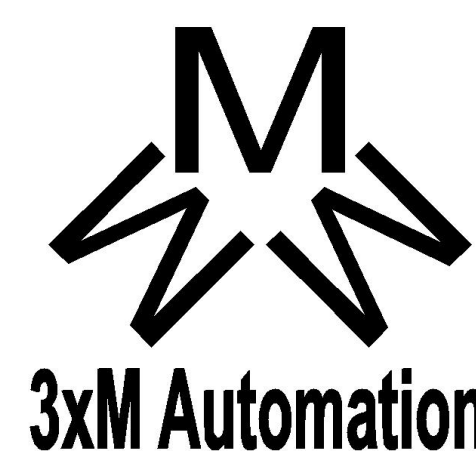
Installation	=
Location	+ PLC
Page number	1



-A4

Analog inputs 8 x 16 bit		
22	PIW288 /15.0	Main machine System pressure 4-20mA = 0-5000 Pa MM_PRESSURE
24	PIW290 /15.0	
26	PIW292 /15.0	
28	PIW294 /15.0	
32	PIW296 /16.0	
34	PIW298 /16.0	
36	PIW300 /16.0	
38	PIW302 /16.0	

				Last changed by <>
				Last changed 1/8/2016
				Print date 1/8/2016
Rev	Revision text	Signature	Date	



PLC OVERVIEW

EXAMPLE PROJECT #3 2006-2016

Drawing number

Ex.3

Pages

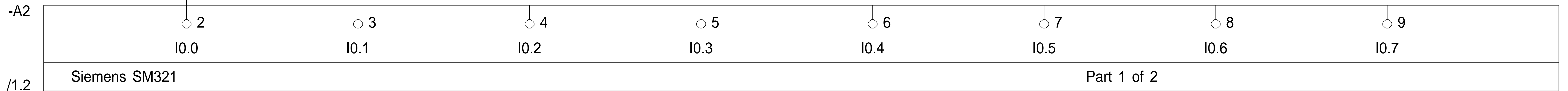
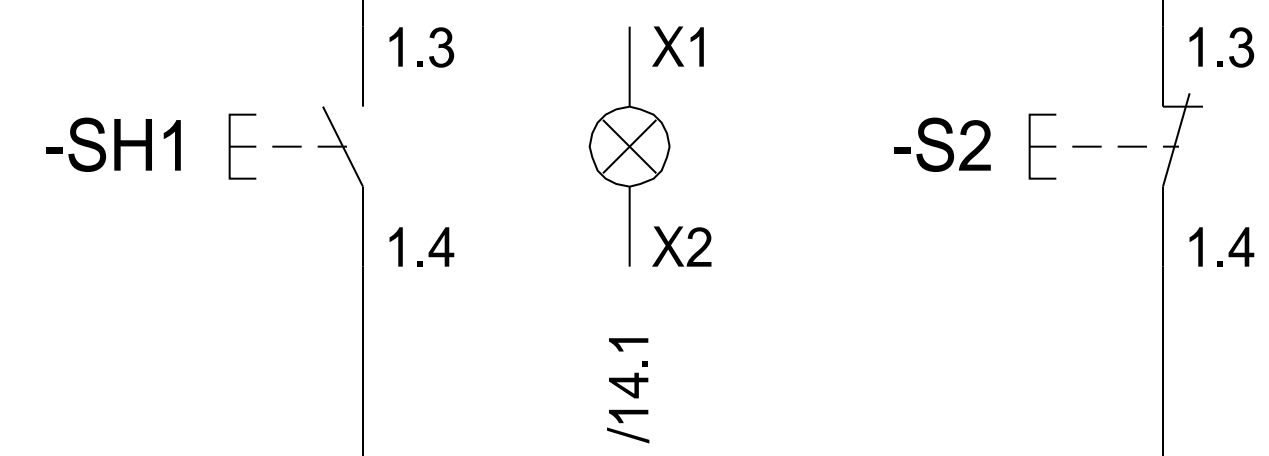
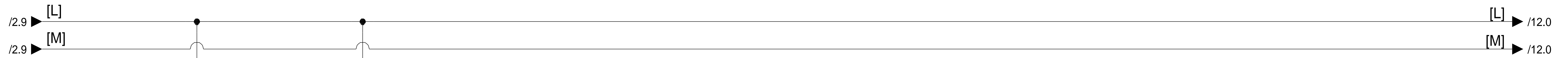
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Installation =

Location + PLC

Page number

2

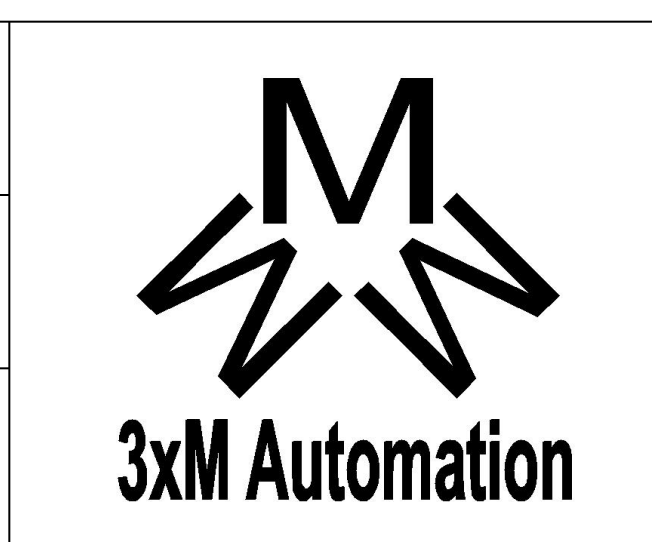


Main machine Pushbutton start

Main machine Pushbutton stop

Rev	Revision text	Signature	Date
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Last changed by	<>
Last changed	1/8/2016
Print date	1/8/2016

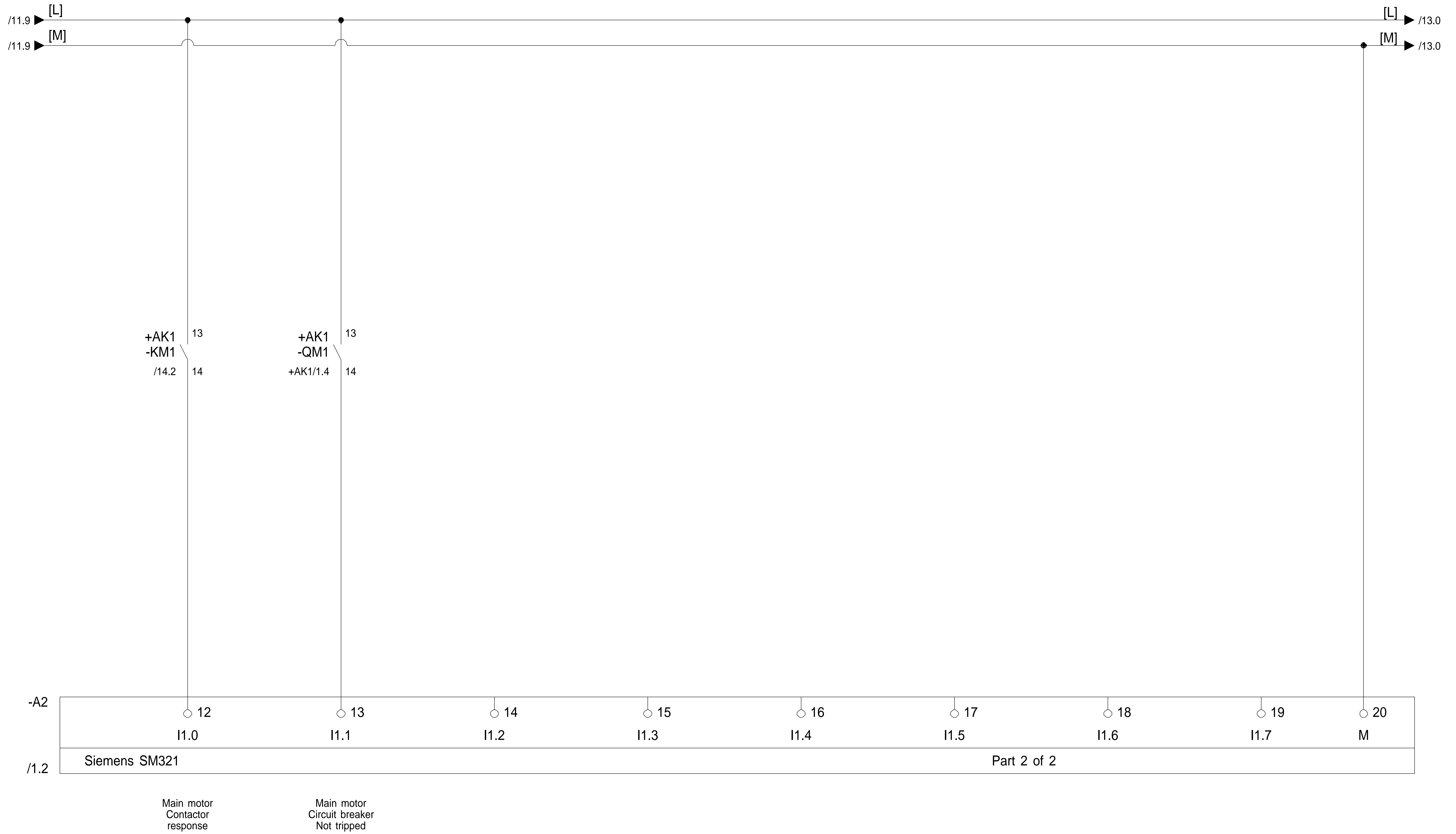


PLC INPUT MODULE -A2 PART 1 OF 2

EXAMPLE PROJECT #3 2006-2016

Drawing number	Ex.3
Pages	17

Installation	=
Location	+ PLC
Page number	11



-A2

/1.2

Main motor
Contactor
response

Main motor
Circuit breaker
Not tripped



PLC INPUT MODULE -A2 PART 2 OF 2

EXAMPLE PROJECT #3 2006-2016

Drawing number
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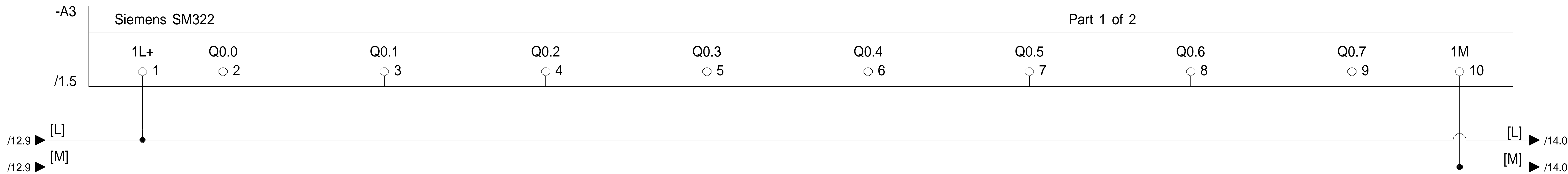
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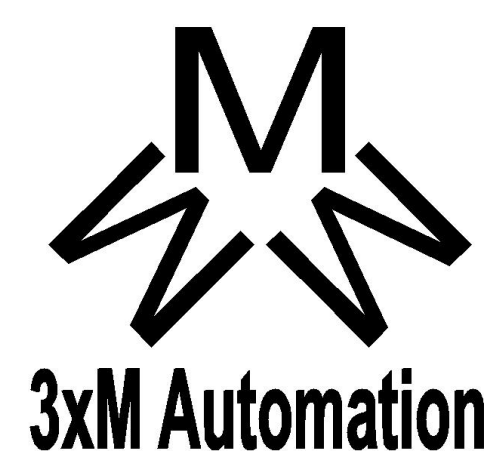
Location **+ PLC**

Page number **12**

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				Last changed 1/8/2016			Ex.3	Location + PLC
Rev	Revision text	Signature	Date	Print date 1/8/2016			Pages	17



				Last changed by <>
				Last changed 1/8/2016
				Print date 1/8/2016
Rev	Revision text	Signature	Date	



PLC OUTPUT MODULE -A3 PART 1 OF 2

EXAMPLE PROJECT #3 2006-2016

Drawing number

Ex.3

Pages

17

Installation =

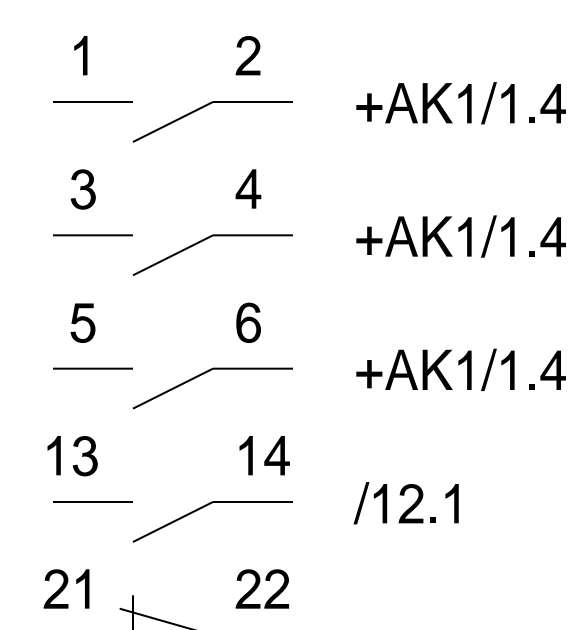
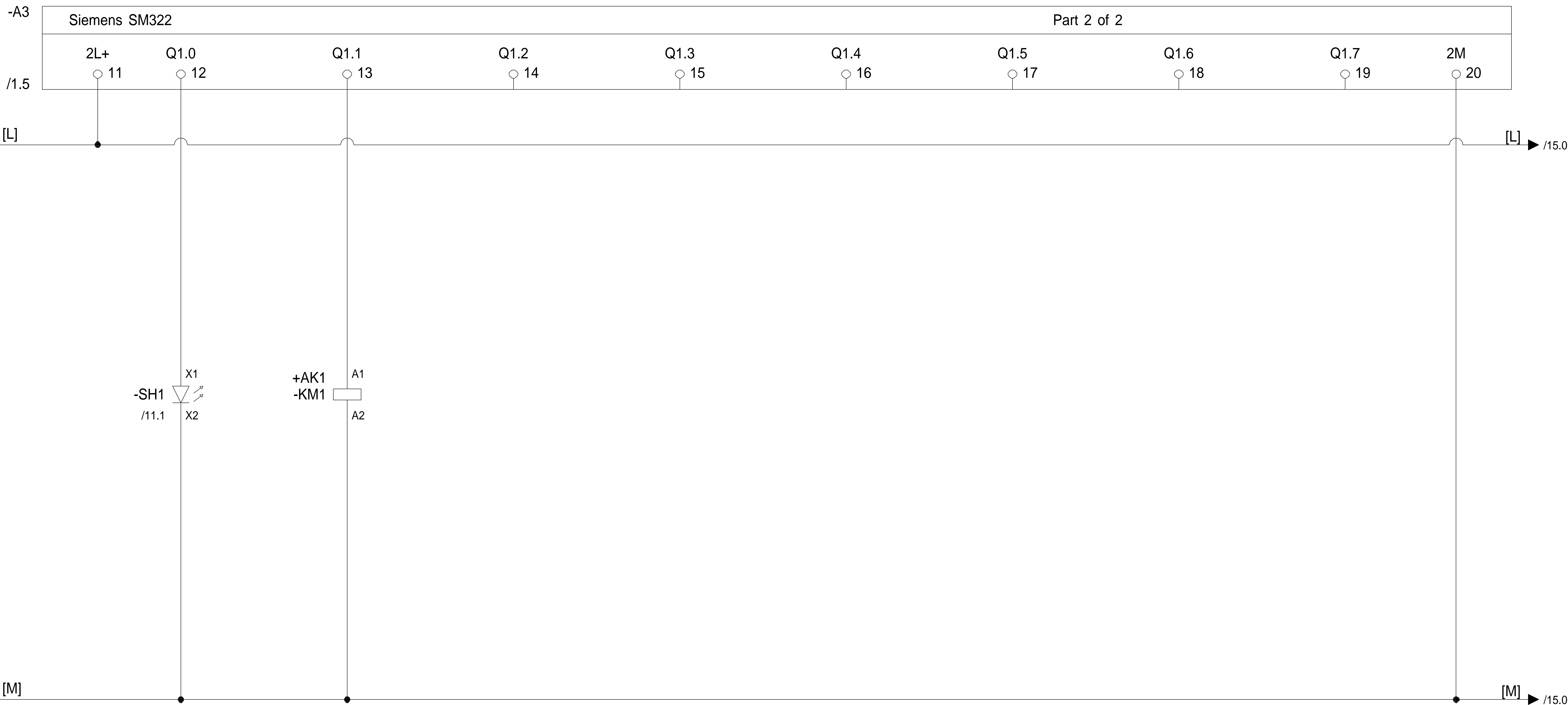
Location + PLC

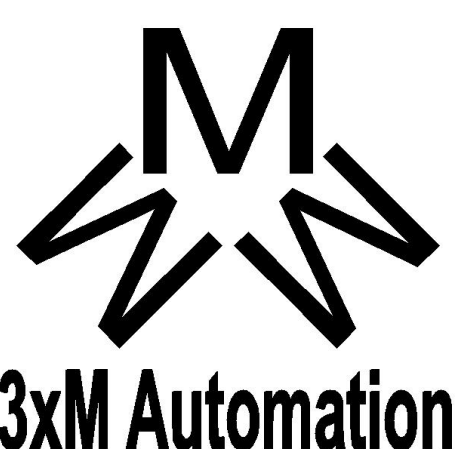
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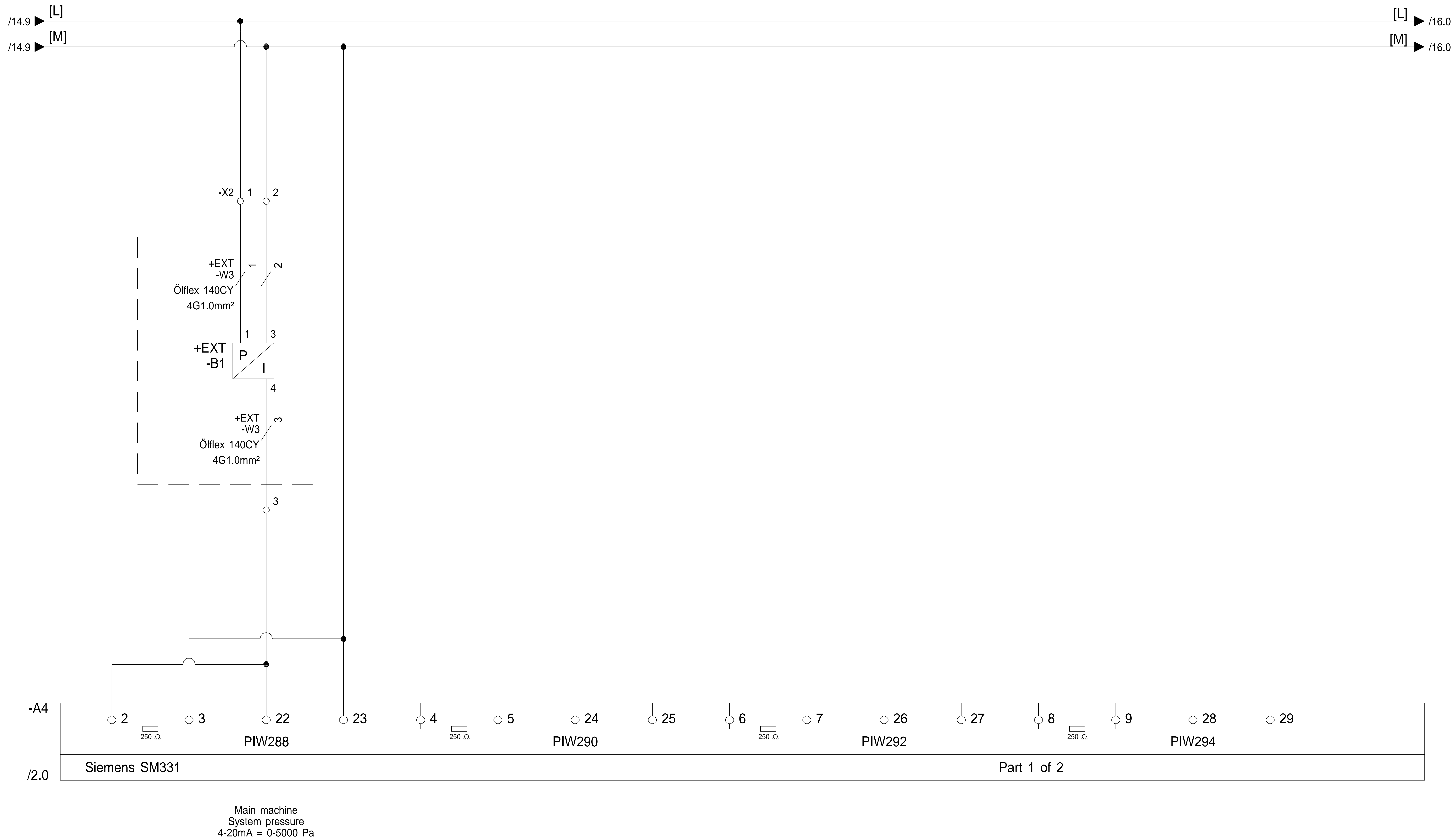
13

Main machine
Started indicator

Main motor
Start
contactor

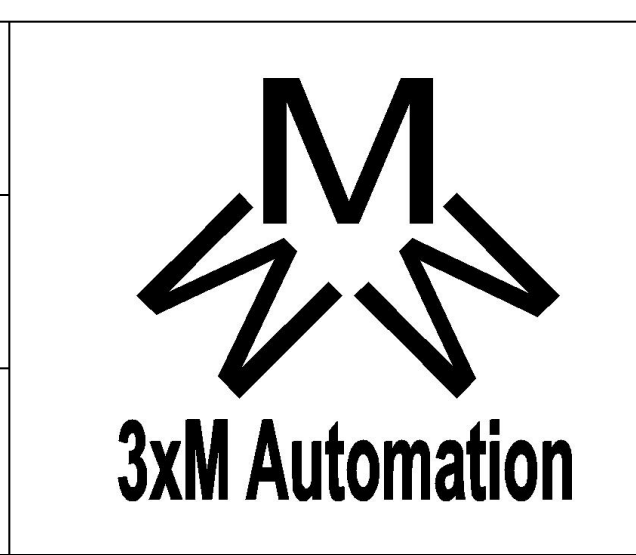


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				Last changed 1/8/2016			EXAMPLE PROJECT #3 2006-2016		Pages 17		Location + PLC	
Rev		Revision text		Signature			Date		1/8/2016		Page number 14	



Rev	Revision text	Signature	Date
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Last changed by	<>
Last changed	1/8/2016
Print date	1/8/2016



PLC INPUT MODULE -A4 PART 1 OF 2
 EXAMPLE PROJECT #3 2006-2016

Drawing number	Ex.3
Pages	17

Installation	=
Location	+ PLC
Page number	15

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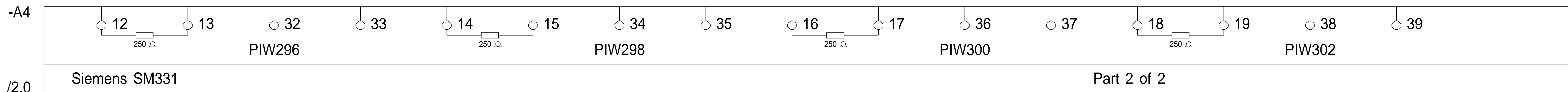
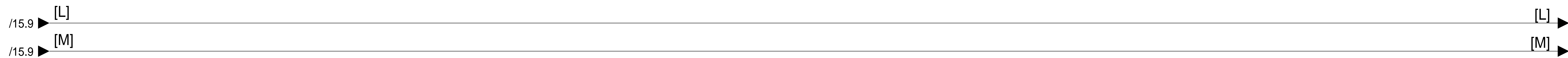
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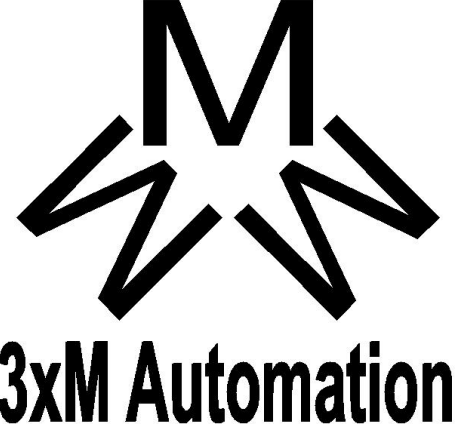
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8

9



15

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				Last changed 1/8/2016			Ex.3	Location + PLC
Rev	Revision text	Signature	Date	Print date 1/8/2016			Pages 17	Page number 16