

Prosjekt:	Fartstavler Ålesund	Prosjektnr.	717218	Dato:	09.04.2019	Rev.	02
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Dokument tittel:	PROSJEKTDOKUMENTASJON / FDV LED VMS RGB		
Prosjekt:	Fartstavler Ålesund		
Prosjekt nr.:	717218		
Kunde:	SVV	Versjon:	B
Byggherre:	Statens vegvesen	Ant sider:	11

02	09.04.2018	Klargjort dokument	BEP	TPK
01	30.09.2018	Første utgave	RH	-
Rev	Dato	Beskrivelse	Skrevet av	Godkjent av

1 Godkjent	☐	Sign.
2 Ikke godkjent	☐	Sign.
Kommentarer: 		

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1 OM LED VMS RGB SKILT

LED VMS RGB modulskilt er utviklet spesielt for krevende norske forhold. Skilt er bygd opp av moduler som er IP66 godkjent. ITS kontroller er plassert i koblingsskap som kan festes på mastestolpe.

TEKNISKE SPESIFIKASJONER

LED, elektronikk

Spredningsvinkel: B1, B2, B3, B4, B5 (EN12966)
Strømtrekket over diodene er lavere enn 60% av diodenes maksimale strømtrekk.

Kapslingsgrad: IP66 Diodetype: Nitchia

Strømforsyning: 230Vac / 24VDC

Godkjenning:

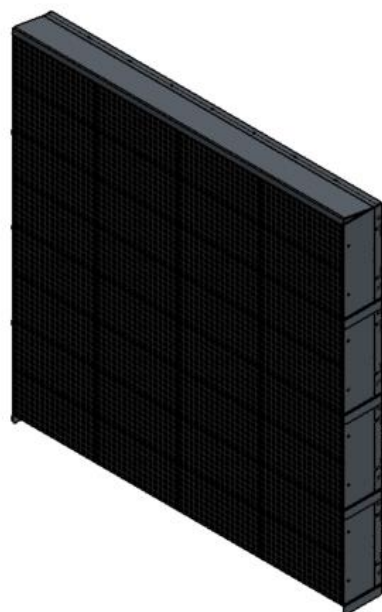
Godkjent i henhold til EN 12966-1:2005 + A1:2009,

(C2L3R2B4/T1, T2, T3/P3),
(C2L3(*) R2B4/T1, T2, T3/P3),
(C2L3(T)R0B4/T1, T2, T3/P3)

Sert. nr. 0402-CPD-SC0543-13

Snøbrøytelast i henhold til EN12899:2007 DSL4

Vindlast i henhold til EN12899:2007 WL5



Tilkobling: Skruterminal på hurtigplugg eller rekkeklemme i koblingsboks

Materiale og overflatebehandling: Panel i kromatert, pulverlakkert 6063T6 aluminium.
Skruer og festemateriell er i syrefast stål (A4).

Lagring og frakt: Under frakt og lagring må skiltet stå oppreist i normalposisjon for drenering og lufting.

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2 GODKJENNINGER



Statement of Conformity Ingress Protection (IP)

Order No.: 343684

Applicant	Euroskilt AS Reservatveien 8 3118 Tønsberg Norway
Manufacturer	Euroskilt AS and Tønsberg Reservatveien 8 3118 Tønsberg Norway
Product	LED VMS cabinet
Models	LED VMS cabinet
Brand Name / Trade mark	
Additional information	Metal enclosure made of aluminum profile system, dimension 900x900x150mm (height). Hinged door with three rubber seals in profile and two locking devices prepared for padlocks.
IP classification	IP56 category 2
The above product is tested according to the following standards	EN 60529 (1991) + A1 (2000) Degree of protection provided by enclosures (IP Code) EN 12966 (2014), IPXX category 2 Road vertical signs Variable message traffic signs
	IP56 Cat. 2

Nemko confirms that one sample of the mentioned product has been tested and found to be in conformity with the requirement for the degree of protection as specified above.
This statement gives no right to use Nemko's name or certification mark on the products.

Date 2017-12-12

Tested by: Finn-Tore Jørgensen

Approved by: Espen Eriksen

Nemko Group
Nemko AS, Gustavsløkken 30, P.O. Box 73 Blindern, 0314 Oslo, Norway
Tel: +47 22 96 03 30 Fax: +47 22 96 05 50 Email: info@nemko.com
ENTERPRISE NUMBER NO274404532

Side 1 av 1
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Statement of Conformity Ingress Protection (IP)

Order No.: 343684

Applicant	Euroskilt AS Reservatveien 8 3118 Tønsberg Norway
Manufacturer	Euroskilt AS Reservatveien 8 3118 Tønsberg Norway
Product	LED VMS module
Models	LED VMS module
Brand Name / Trade mark	
Additional information	Insulating enclosure with LED lenses in front. Backside cover with dust rubber seal and electrical connector for power input and signal input.
IP classification	IP66
The above product is tested according to the following standards	EN 60529 (1991) + A1 (2000) Degree of protection provided by enclosures (IP Code)
	IP66

Nemko confirms that one sample of the mentioned product has been tested and found to be in conformity with the requirement for the degree of protection as specified above.
This statement gives no right to use Nemko's name or certification mark on the products.

Date 2017-12-12

Tested by: Finn-Tore Jørgensen

Approved by: Espen Eriksen

Nemko Group
Nemko AS, Gustavsløkken 30, P.O. Box 73 Blindern, 0314 Oslo, Norway
Tel: +47 22 96 03 30 Fax: +47 22 96 05 50 Email: info@nemko.com
ENTERPRISE NUMBER NO274404532

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Report No. E17198.00

Test Report Electromagnetic Compatibility

Product	Euroskilt Traffic Variable Message Sign, LED RGB
Name and address of the applicant	Euroskilt AS Reservatveien 8 3118 Tønsberg Norway
Name and address of the manufacturer	Euroskilt AS Reservatveien 8 3118 Tønsberg Norway
Model	P20 and P16
Rating	230V AC 50Hz
Trademark	-
Serial number	-
Additional information	CI. I
Tested according to	EN 50293:2012 EN 61000-3-2:2014 EN 61000-3-3:2013
Order number	335624
Tested in period	2017-08-24 and 2017-08-25
Issue date	2017-11-13
Name and address of the testing laboratory	Nemko Group Nemko AS Gustavsløkken 30, P.O. Box 73 Blindern, 0314 Oslo, Norway TEL: +47 22 96 03 30 FAX: +47 22 96 05 50 An accredited technical test established under the Norwegian accreditation scheme
	 Prepared by [Anh Anh Dung]
	 Approved by [Roger Berget]
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CERTIFICATE: 1

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CE NOTIFIED BODY No. 0407

CERTIFICATE OF CONSTANCY OF PERFORMANCE

0407-CPR-1350 (IG-228-2017)

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction products

VARIABLE MESSAGE TRAFFIC SIGNS

Identified as shown overleaf (Annex)
placed on the market by

YAHAM OPTOELECTRONICS CO., LTD.

Bldg A & Bldg D, Yongwei Industrial Park, #118 Yongfu Rd, Fuyong, Bao'an District, Shenzhen, China (PRC)
and produced in the manufacturing plant

Bldg A & Bldg D, Yongwei Industrial Park, #118 Yongfu Rd, Fuyong, Bao'an District, Shenzhen, China (PRC)

This certificate attests that all provisions concerning the assessment and verification of constancy of performance at system level and the performances described in Annex ZA of the standard

EN 12966-1:2005 + A1:2009

are applied and that

the products fulfil all the prescribed requirements.

This certificate was first issued on 30/10/2017 and will remain valid as long as the harmonised standard remains valid or the manufacturing conditions in the plant or the factory production control itself are not modified significantly.
Bellaria-Igea Marina - Italia, 30/10/2017

Revision No. 0

CPD Department Technical Manager
(Dott. Ing. Giuseppe Persano Adorno)

Chief Executive Officer
(Dott. Arch. Sara Lorenza Giordano)

The original of this document consists of an electronic document with a digital signature (certified pursuant to D.M. (Presidential Decree) 133/07)

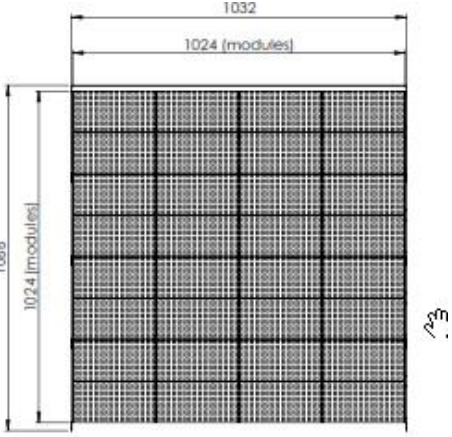
Sheet 1 of 2

ISTITUTO GIORDANO S.p.A. - Via Gioacchino Rossini, 2 - 47814 Bellaria-Igea Marina (RN) - Italia
www.giordano.it - info@giordano.it - PEC: ist-giordano@legalmail.it - tel. +39/0541/343030

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SKILT

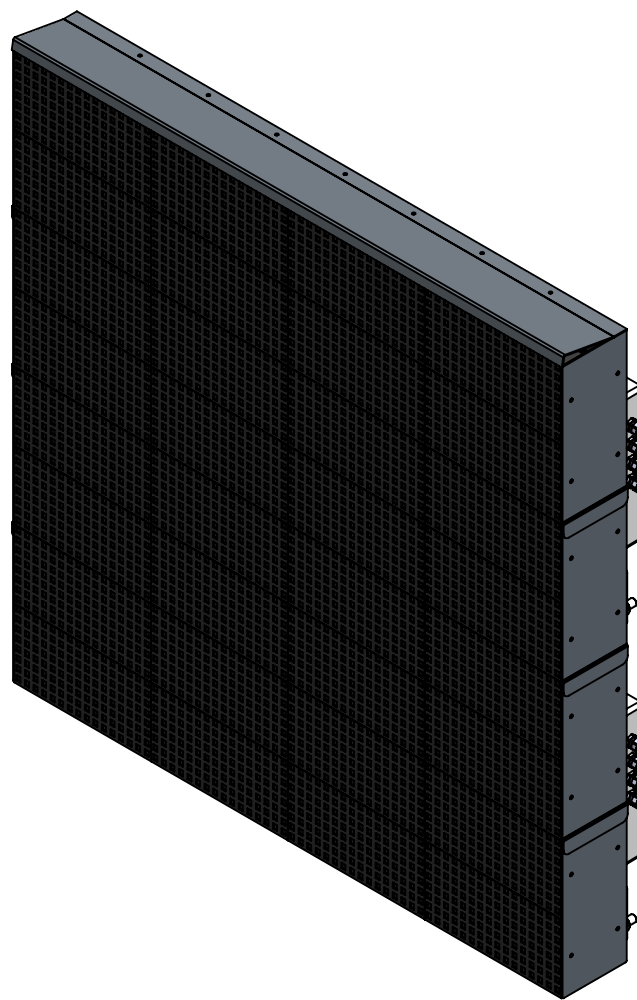
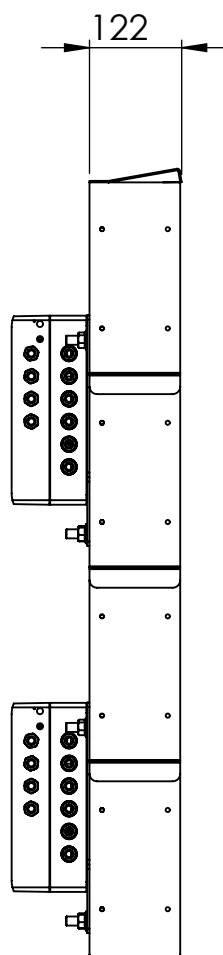
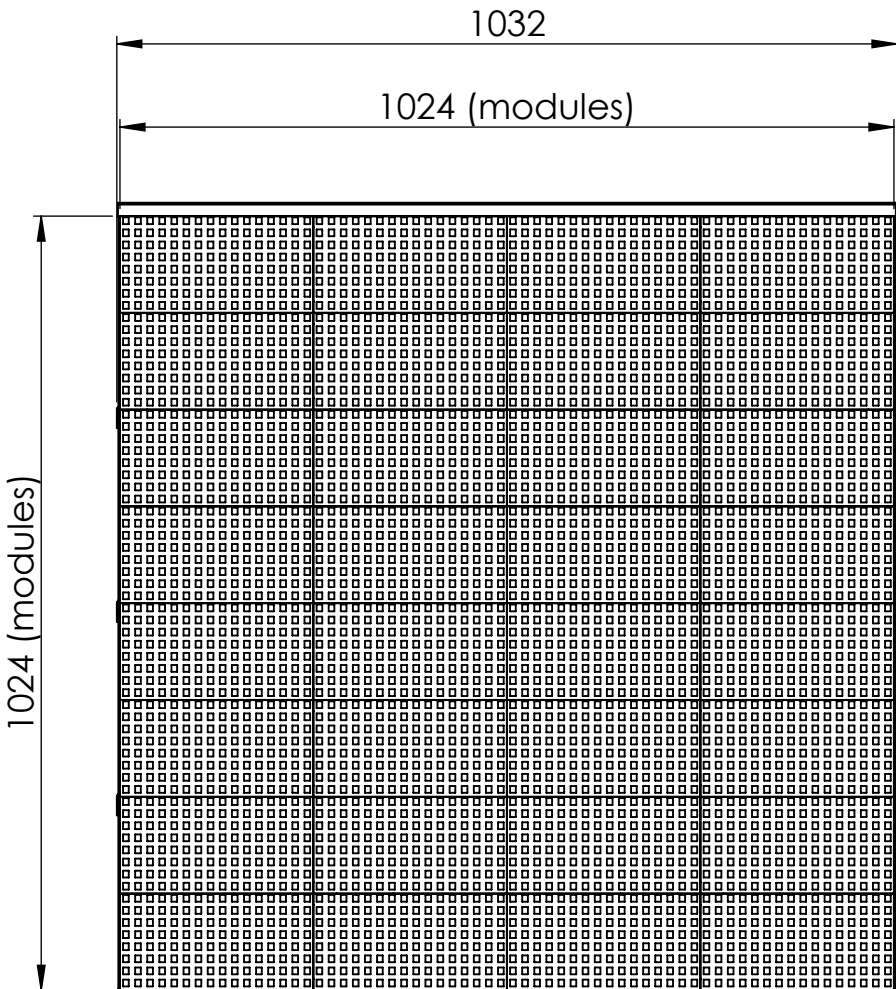
3.1 Variabel opplysningstavle for fartsvisning

Skiltbilde	Variabel opplysningstavle for fartsvisning	
Produktnr.		
Type	LED VMS modul løsning	
Mål skiltansikt (mm)	1024 x 1024 mm	
Mekanisk størrelse (mm)	1032 x 1066 mm	
Fargekode	RAL 9017 glans 3 - 10	
Antall:	1	
Styring	ITS controller	
Feste:	Ikke Spesifisert	
Kabelgjennomføring:	M32, M20	
Driftsspenning:	230VAC	
Styreprotokoll	OPC-UA	
Effekt maks:	Est.640 W	
Effekt nominell:	400 W	
Diodeavstand:	P16	
Vekt	ca. 75kg	
El. tegninger:	1542806-WD-01	

		
Pos 1	Pos 2	Pos 3

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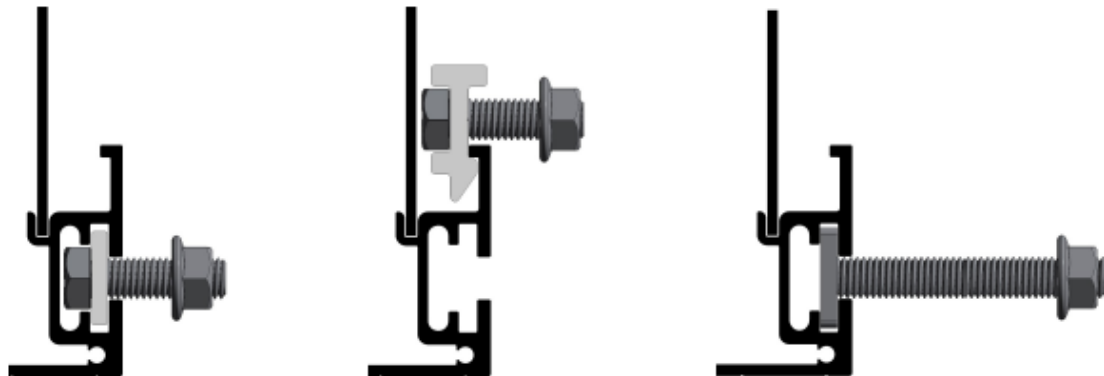
Geometry from 3D CAD-model is leading unless otherwise stated on the 2D drawing or in the additional specifications document



5	2	073	10000509-02	RGB module protection side 2 rows bottom					0.16	
4	1		10000508-01	RGB module protection top 1m					0.7	
3	6	073	10000509-01	RGB module protection side 2 rows					0.18	
2	4		10000364	Controll card unit complete withe box and mountingplate					1.75	
1	4		10000383	RGB panel P16 2x4 modules					14.93	
POS	QTY.	Prod. Gr.	Drawing No.	Description					Weight	
Drawn date 31.08.2018		Drawn by	Approval date 01.04.2019	Approved by CBO	General Tolerance NS-ISO 2768-1-M		Projection 	Sheet 1 of 1	Scale 1:10	
Material				Surface treatment		Weight 164.23kg	Prod. Groupe 073	Format A3		
Title RGB profile, Ålesund 4x8 modules						Status APPROVED		Drawing no. 10000580		Revision 0
Additional description						Article no.			Project no. 717218	Document Type Assembly

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4 LED VMS SKILT – FESTEUTSTYR



Figur 4-1: M12 Boltfester, T-bolt og hammerboltfeste

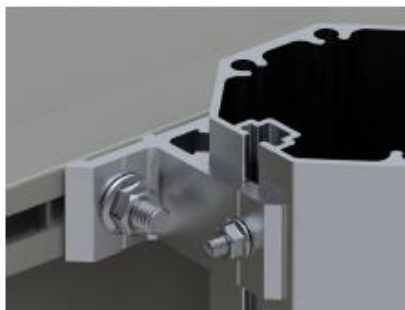
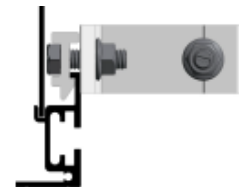
Følgende fester med glideskinne brukes for montering på Norsafe mast:

Varenr: 21190022618 Klammer alu Ø90mm med flatskinne

Varenr: 22330020012 NM120 Skiltfeste m/60mm glideskinne

Varenr: 22330030015 NM150 Skiltfeste m/60mm glideskinne

Varenr: 22330030019 NM190/290 Skiltfeste m/60mm glideskinne



Figur 4-2: Glideskinne

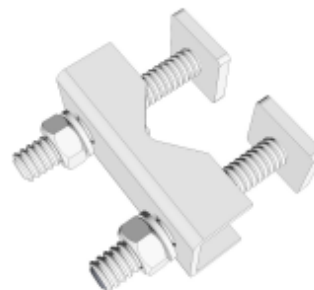
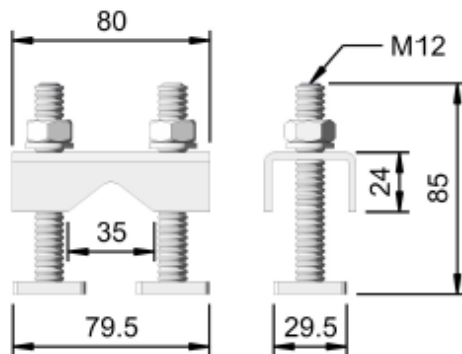
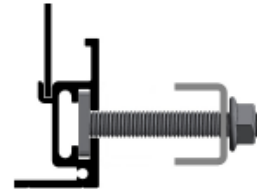


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Kamjernfeste i syrefast stål

Brukes til 16 – 35mm kamjern (vertikalt eller horisontalt) og stålmast

Varenr: 16095100520

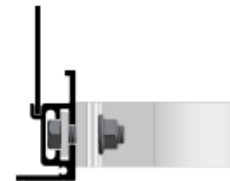
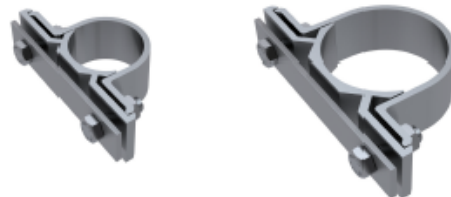


Montering med Ø60 eller Ø90mm rør bak skiltet

Aluminium fester som brukes når skiltet skal monteres på rør samt på Norsafe Mast NM89. Her må man være obs på at rørene normalt blir det svakeste punktet i konstruksjonen. (Det er også mulig å montere skiltet med fester for VD dersom man ikke har fester med glideskinne tilgjengelig) Det kan og leveres varmgalvaniserte fester for montering på andre rør. Følgende fester med glideskinne brukes for montering med rør:

Artikkel nr.: 21190022614 Klammer alum Ø60mm med flattskinne

Artikkel nr.: 21190022618 Klammer alum Ø90mm med flattskinne



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5 MERKING



Fartstavler LED VMS Ålesund

5.1 Serienummer

Enhet	Nr	Serienummer	Info
LED RGB Fartsvisingsskilt	1	SPES-2019-241	

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6 SERVICE

6.1 Service/Vedlikehold

Vennligst se vedlegg «Vaskerutiner RGB» for detaljer.

For å holde frontplater rene må produktene inspiseres årlig og rengjøres for smuss.
For å unngå vanninntrenging med påfølgende kondensoppbygging og skader på elektronikk må det utføres kontroll av pakninger jevnlig.
Påse at dreneringshull og luftenipler er åpne og at varmeelement fungerer.

Produktene tåler Statens Vegvesens normale vaskeprosedyrer.
Det anbefales ikke å vaske skiltene fra undersiden/i underkant på grunn av luftenipler og dreneringshull.

Ved bytte av styrekort må «Jumpere» settes lik utbyttet enhet (setter tilbakemeldinger og styrker).
Dette må settes før skiltet kobles til spenning. Se vedlagte skjemategninger for hvilke typer «jumpere» som er benyttet.

NB! Ved vedlikehold og bytte av enhet må enheten være strømløs og spenningsprøving må være foretatt.

Ved behov for service:

Euroskilt AS
Reservatveien 8
3118 Tønsberg



service@euroskilt.no

0 60 80

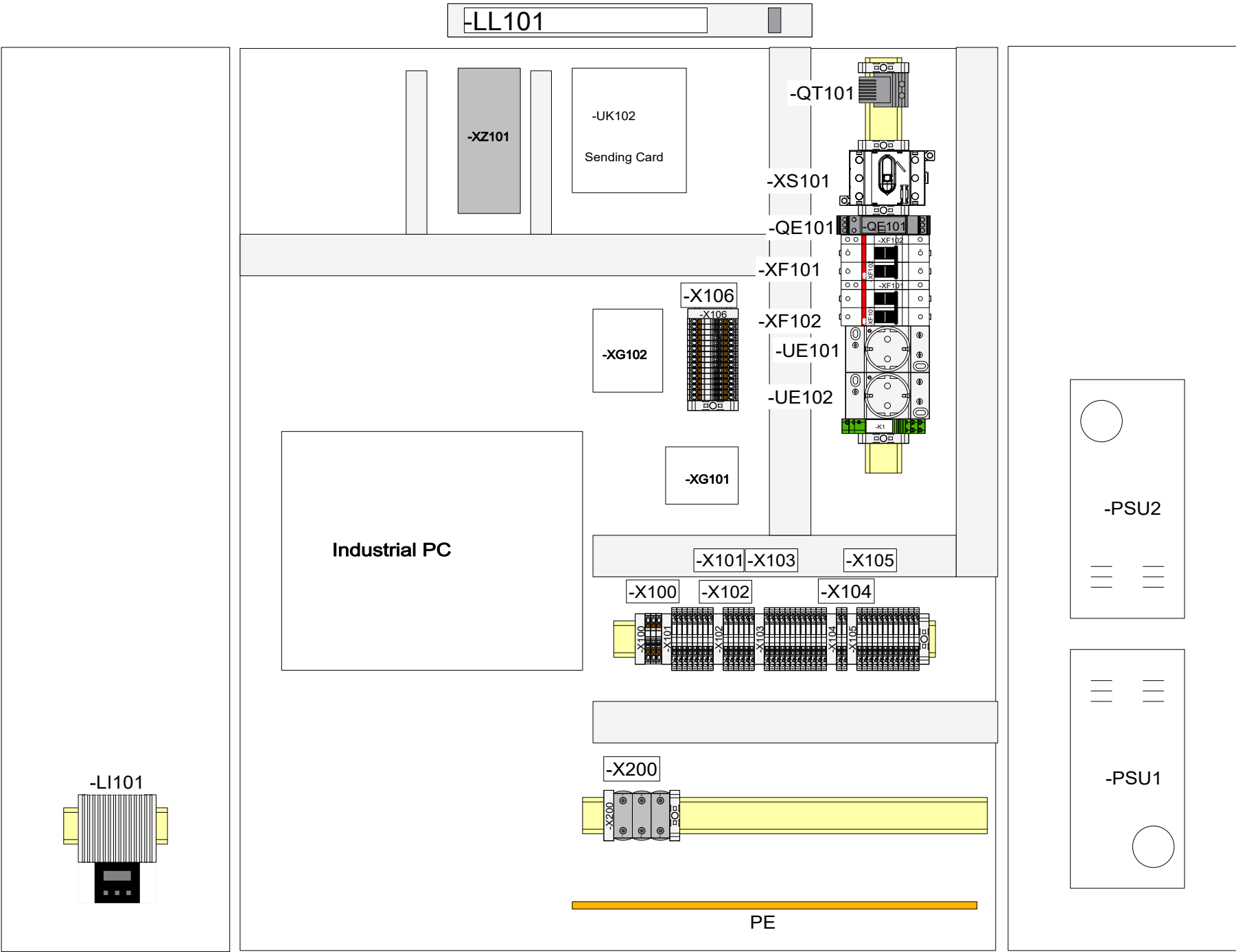
Prosjekt:	Fartstavler Ålesund	Prosjektnr.	717218	Dato:	09.04.2019	Rev.	02
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7 VEDLEGG

Vedlegg nr.	Beskrivelse	Rev.
1	1542806-GA-01	01
2	1542806-WD-01	01
3	1542806-SD-01	01
7	Samsvarserklæring	-
8	Vaskerutine for Euroskilt RGB skilter	-

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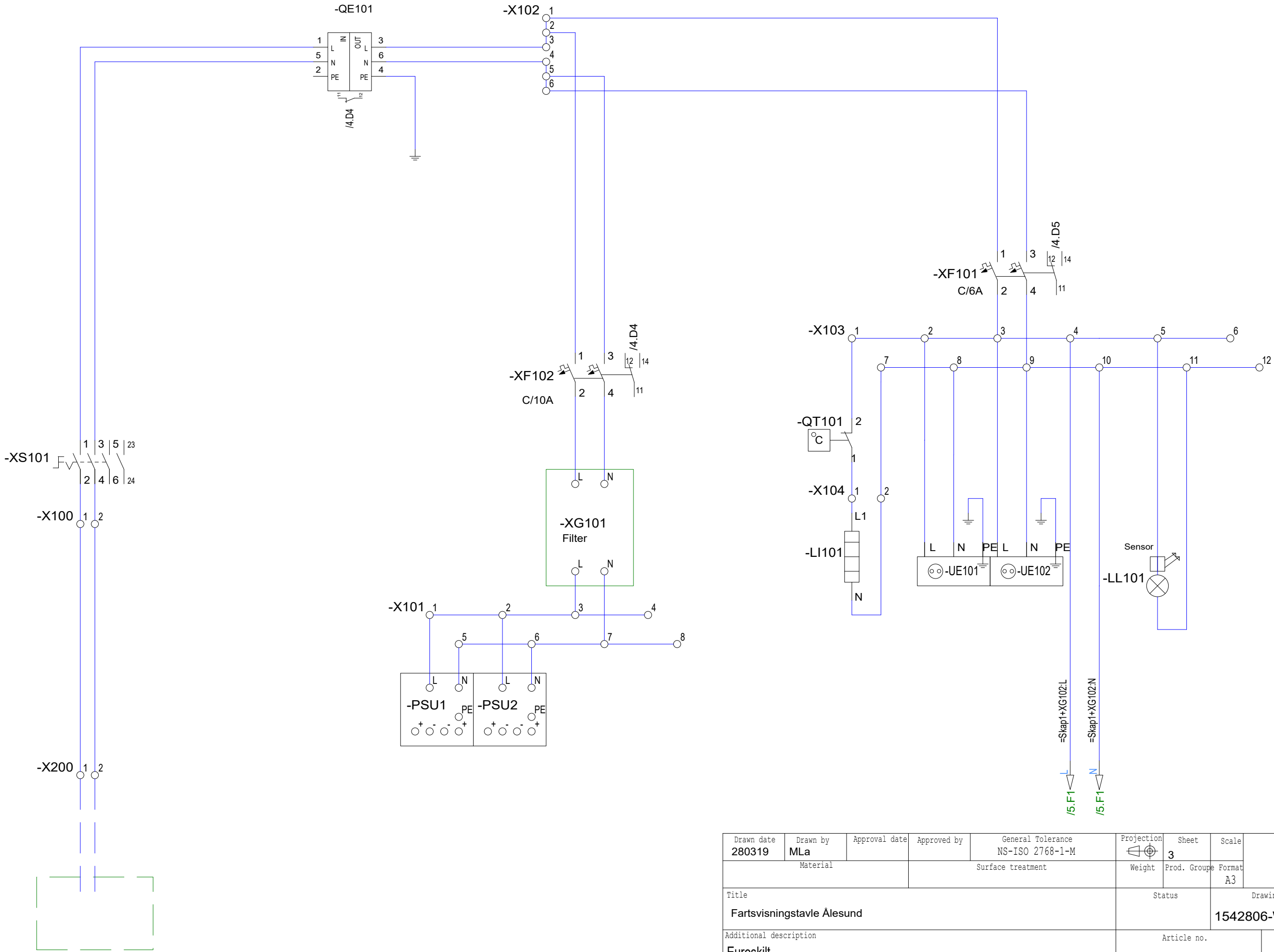
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280319	MLa			AS built	01

Drawn date 280319	Drawn by MLa	Approval date	Approved by	General Tolerance NS-ISO 2768-1-M	Projection 	Sheet 1	Scale				
Material			Surface treatment		Weight	Prod. Groups	Format A3				
Title Fartsvinsningstavle Ålesund					Status		Drawing no. 1542806-GA-01		Revision 01		
Additional description Euroskilt					Article no.			Project no.		Document Type GA	

1	2	3	4	5	6	7	8							
					Change date	Changed by	Approval date	Approved by	Description of change	Revision				
					280319	MLa			AS built	01				
A														
Component list														
Qty	Description	Supplier	Real manufacturer part number		Item									
1	Hovedbryter	ABB	OT63F3		XS101									
1	Automat S202M-C6	ABB	2CDS272001R0064		XF101									
1	Automat S202M-C10	ABB	2CDS272001R0104		XF102									
2	Hjelpekontakt S2C-H6R	ABB	2CDS200912R0001		XF101, XF102									
1	Surge Protector PLT-SEC-T3-230-P	Phoenix	2905229		QE101									
1	EMI Filter Trans 230VAC	Yaham	B3LB-6A		XG101									
1	Power Supply 24V DC /5V DC	MeanWell	RD35-B		XG102									
3	Power Supply 5V DC	MeanWell	RSP 320-5		PSU1-2									
1	ES28E w/ES28 AdapterCard RS-232	Flåtnes/Giotto	101600225		XZ101									
8	Receiving Card OT16/OT20	Yaham	YHT-SYS-FS-42		XZ102									
1	Sending Card P16/P20	Yaham	YHT-SYS-STM32-05		UK102									
8	Pixel Detection Card OT16/OT20	Yaham	YHT-HUBTEST-07		XZ107									
64	LED Martix P16 Nichia Row x Column 12x13 (WxH)	Yaham	YHT-OT16-1R1G1B-A132-1S3-02-M		XZ108, XZ109, XZ110...XZ172									
1	Photo Sensitive Probe	Yaham	YHT-DLS-01		XP101									
1	Relay - 1CO	Releco			K1									
2	Stikkontakt PC for DIN skinne 16A PNJ	Schneider	A9A15310		UE101, UE102									
1	Termostat 15/5°C	OEM	01160.0-00		QT101									
1	45 Watt varmeelement	OEM	14003.0-00		LI101									
3	Overgangsklemme 1,5-50mm², 1xAl/Cu - OTL	Kontram	VC05-0013		X200									
35	Terminal 2,5mm²	Phoenix	PT2,5		X100, X105, X106									
28	Terminal 2.5mm²	Phoenix	ST 2,5		X101, X102, X103, X104									
1	LED025 Skapbelysning 230V AC LED	STEGO	02540.0-01		LL101									
1	Industrial PC													
B														
C														
D														
E														
F														
G														
H														
Drawn date 280319					Drawn by MLa		Approval date		Approved by					
Material					Surface treatment			Weight	Prod. Groups	Format				
									A3					
Title Fartvisningstavle Ålesund								Status		Drawing no. 1542806-GA-01		Revision 01		
Additional description Euroskilt								Article no.			Project no.		Document Type GA	

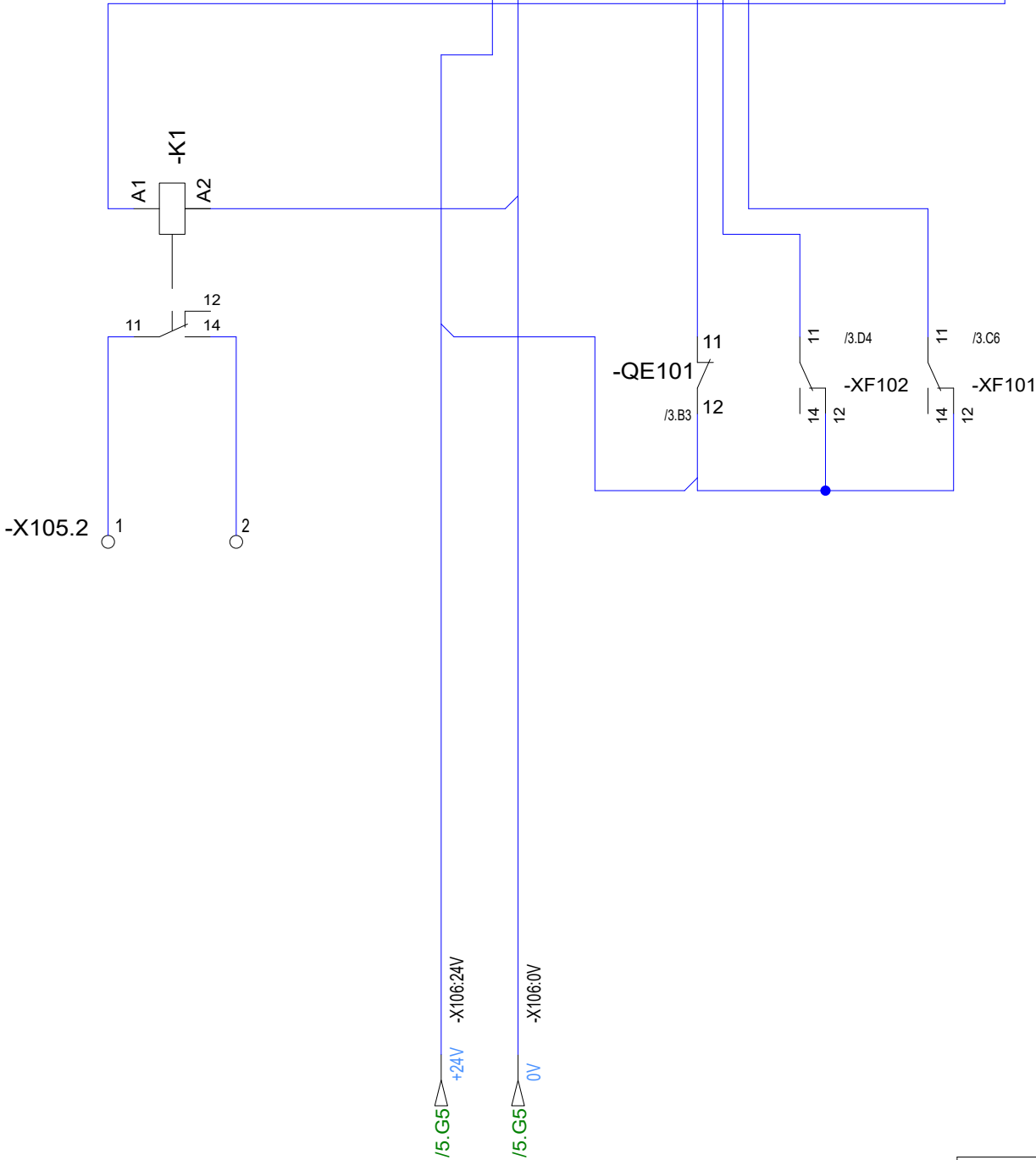
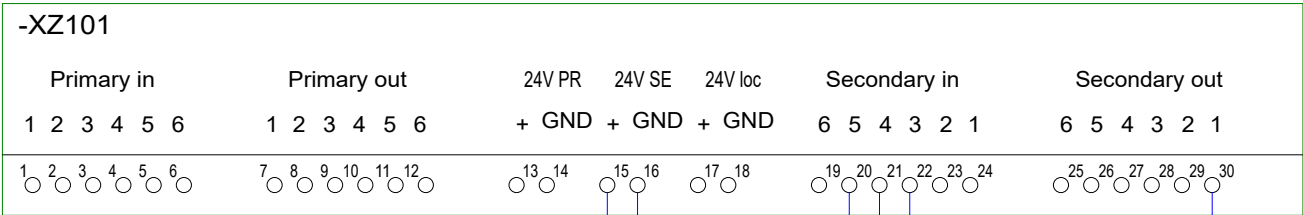
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Material			Surface treatment		Weight	Prod. Groups	Format A3				
Title Fartsvisingstavle Ålesund					Status		Drawing no. 1542806-WD-01		Revision 01		
Additional description Euroskilt					Article no.			Project no.		Document Type WD	

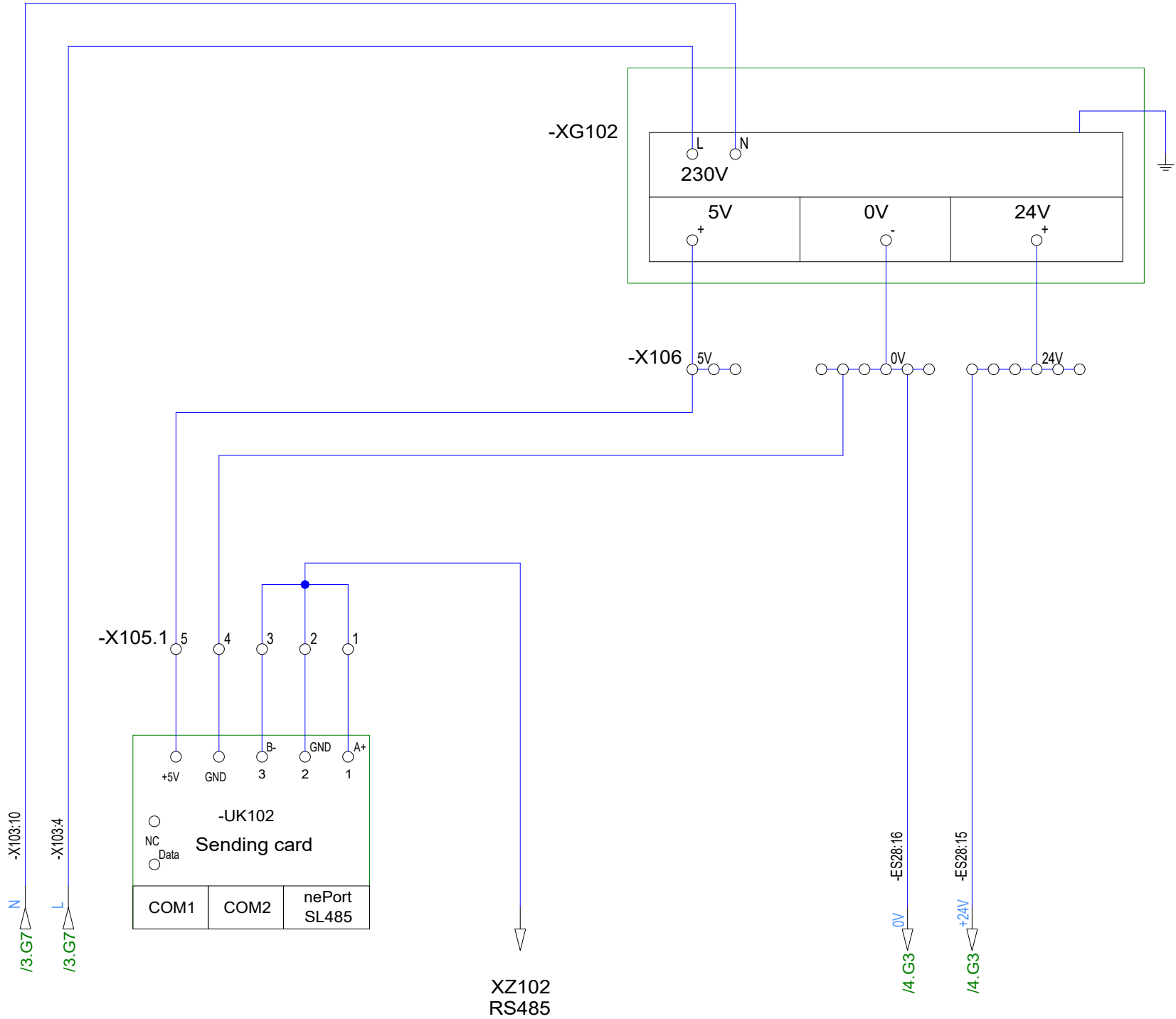


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Material			Surface treatment		Weight	Prod. Groups	Format A3				
Title Fartsvinsningstavle Ålesund					Status		Drawing no. 1542806-WD-01		Revision 01		
Additional description Euroskilt					Article no.			Project no.		Document Type WD	

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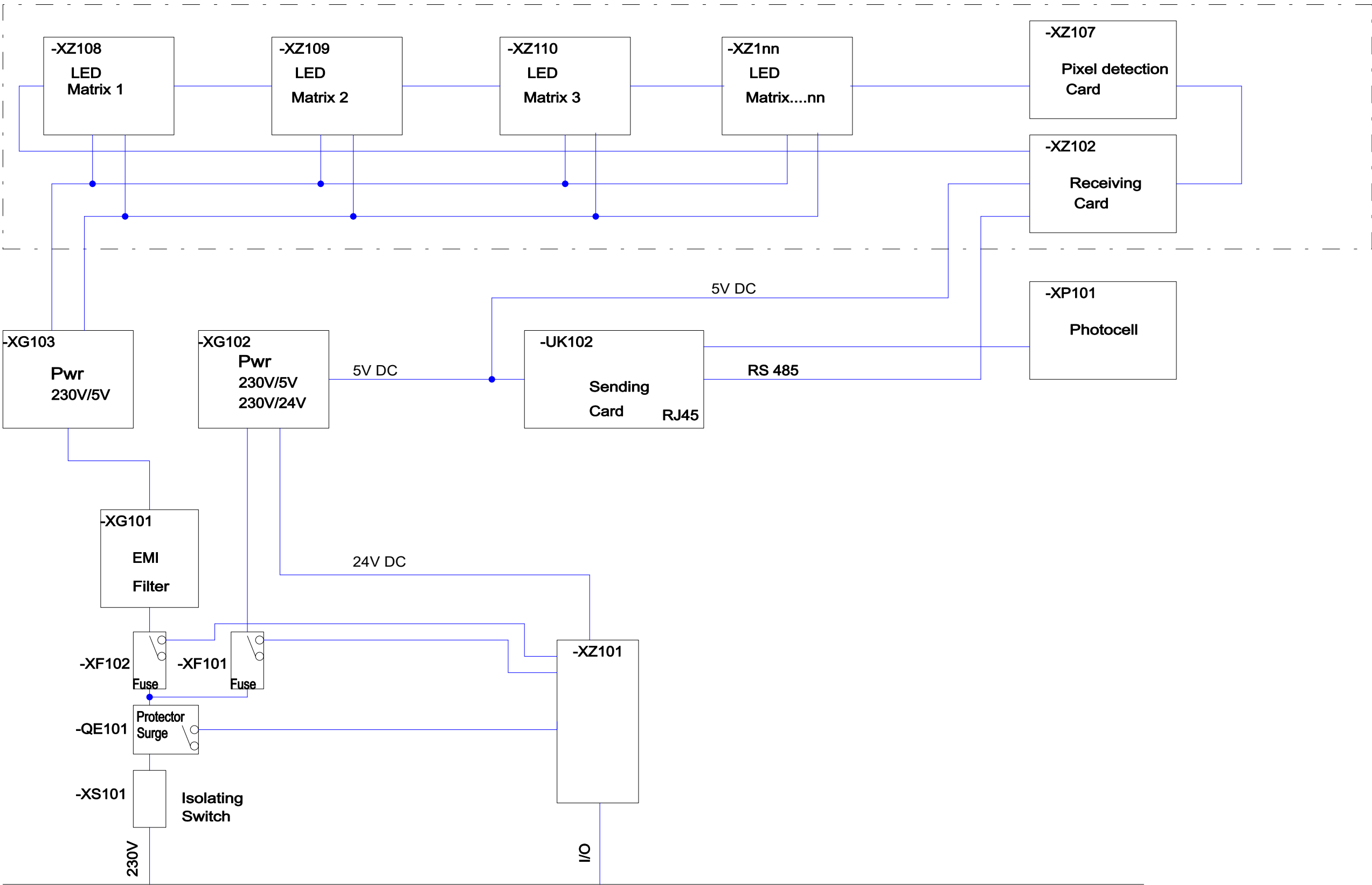
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280319	MLa			AS built	01

Drawn date 280319	Drawn by MLa	Approval date	Approved by	General Tolerance NS-ISO 2768-1-M	Projection 	Sheet 5	Scale		
Material			Surface treatment		Weight	Prod. Group	Format A3		
Title Fartsviningstavle Ålesund					Status		Drawing no. 1542806-WD-01		Revision 01
Additional description Euroskilt					Article no.			Project no.	Document Type WD

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Geometry from 3D CAD-model is leading unless otherwise stated on the 2D drawing or in the additional specifications document

Sign - LED Matrix Row x n



Change date	Changed by	Approval date	Approved by	Description of change	Revision
280319	MLa			AS built	01

Drawn date 280319	Drawn by MLa	Approval date	Approved by	General Tolerance NS-ISO 2768-1-M	Projection 	Sheet 6	Scale				
Material			Surface treatment		Weight	Prod. Groups	Format A3				
Title Fartsvinningstavle Ålesund					Status		Drawing no. 1542806-SD-01		Revision 01		
Additional description Euroskilt					Article no.			Project no.		Document Type Blokk	

Samsvarserklæring Nr 20112017-1

Produsent:

Euroskilt AS
Reservatveien 8
3118 Tønsberg

Vi bekrefter herved at våre produkter innen
produktgruppen:

LED VMS Skilt

Er CE merket og typetestet i henhold til En 12966-1, og produsert i henhold til de
retningslinjer og krav som er gjeldende for dette produktet. Dette gjelder også krav som
kommer frem under Statens Vegvesen sin Håndbok R310

Tønsberg 20.11.2017

A handwritten signature in blue ink that reads "Håkon Sahlsten".

Håkon Sahlsten
Utviklingssjef Euroskilt

Vaskerutine for Euroskilt RGB skilter

Renholdanvising

Benytt høytrykksspyling

Front

Dysetrykk: Max 100 bar

Dysevinkel 90° på skilt

Avstand.: Minimum 50 cm

Vanntemperatur: maks 80° C

Vaskemiddel: pH 6-8

Bakside

Dysetrykk: Max 100 bar

Dysevinkel 90° på skilt

Avstand.: Minimum 100 cm

Vanntemperatur: maks 80° C

Vaskemiddel: pH 6-8

OBS: Det bør ikke spyles inn i luftespalter på skiltets bakside.