

Dokument tittel:	PROSJEKTDOKUMENTASJON / FDV LED VMS RGB		
Prosjekt:	Borealis		
Prosjekt nr.:	695466		
Kunde:	SVV	Versjon:	B
Byggherre:	-	Ant sider:	9

03	09.04.2019	Endring s 1, 3, 6, 9	BEP	TPK
02	15.02.2019	Endring s 1, 2, 7, 10	ALH	BEP
01	19.01.2018	Første utgave	HS	xxx
Rev	Dato	Beskrivelse	Skrevet av	Godkjent av

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

Prosjekt:	Borealis	Prosjektnr.	695466	Dato:	01.04.2019	Rev.	03
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Prosjekt:	Borealis	Prosjektnr.	695466	Dato:	01.04.2019	Rev.	03
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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 bak på skilt.

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,

(C2L2R2B3/T1, T2, T3/P3),

(C2L2(*) R2B3/T1, T2, T3/P3),

(C2L2(T)R0B3/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.

Prosjekt:	Borealis	Prosjektnr.	695466	Dato:	01.04.2019	Rev.	03
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2 GODKJENNINGER

Nemko 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 padlock.

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, Gaustadalleen 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
Entreprise number: NO27440532

Side 1 av 1
nemko.com/no

Nemko 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 dual rubber seal and electrical connectors 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.

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Date 2017-12-12

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Entreprise number: NO27440532

Side 1 av 1
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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 1
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 Gaustadalleen 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 executed under the Norwegian accreditation scheme	
Prepared by [Anh Dung Lam]	Approved by [Roger Berget]

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Entreprise number: NO27440532
Certificate: 1

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Entreprise number: NO27440532
Certificate: 1



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 2A 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)

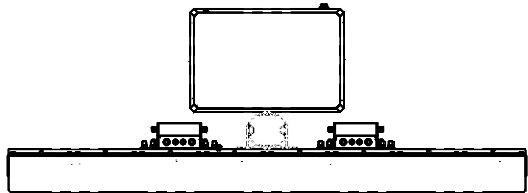
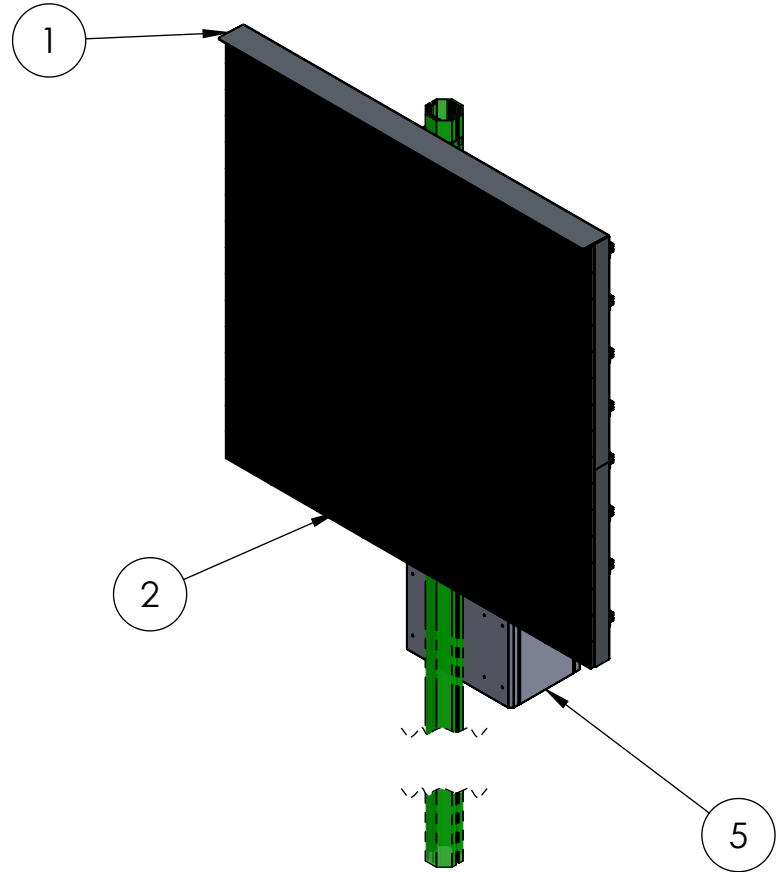
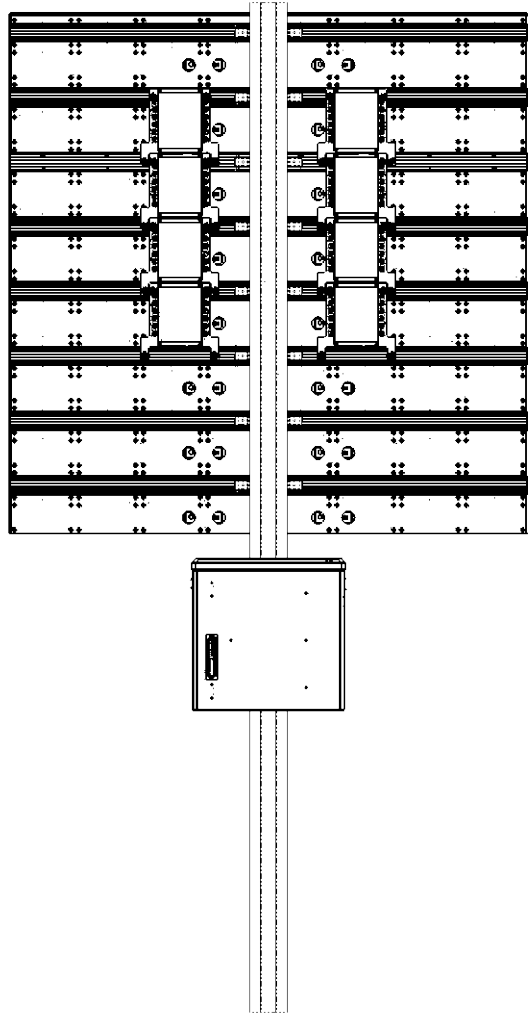
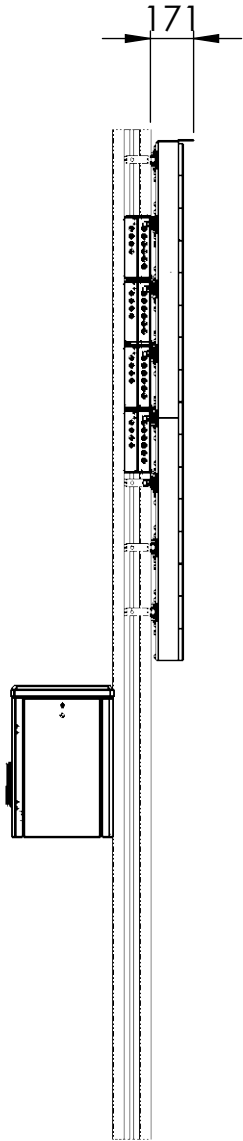
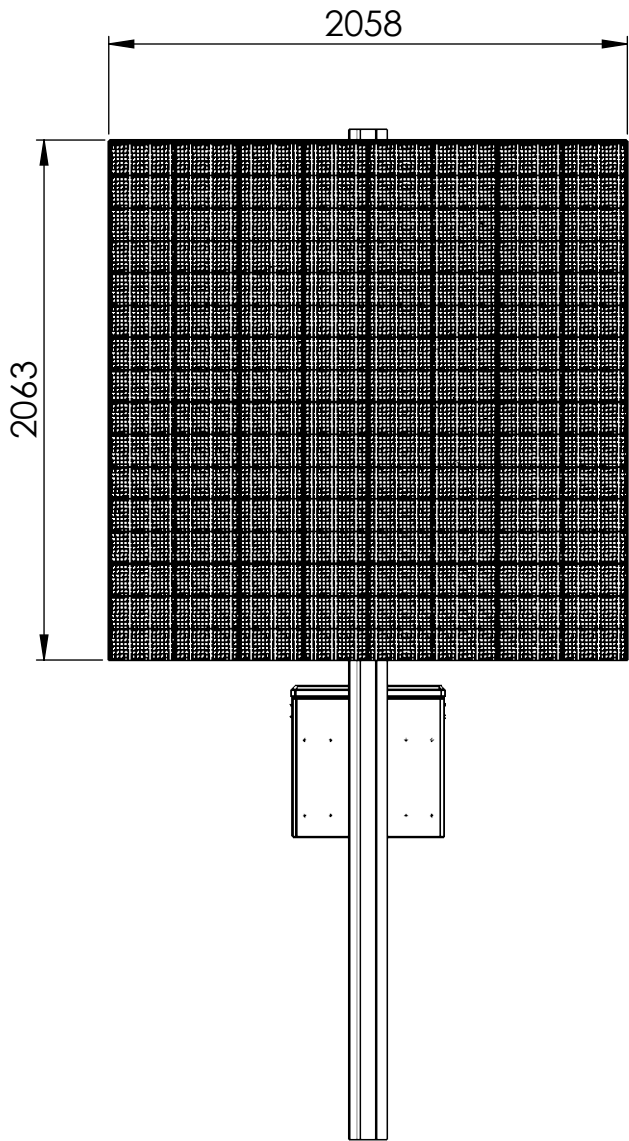
The original of this document consists of an electronic document with a digital signature affixed pursuant to DPR (Presidential Decree) 131/01.

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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6		7			8
Change date	Changed by	Approval date	Approved by	Description of change	Revision

5	1		H100131	Cabinet					22.00		
4	512			Hex nut M8, ISO 4032 A4					0.006		
3	8		10000364	Controll card unit complete withe box and mountingplate					1.75		
2	128		10000310	P16 module					1		
1	1	073	10000540	LED VMS module P16 Hjelviktunnelen, back plate assembly					73.10		
POS	QTY.	Prod. Gr.	Drawing No.	Description					Weight		
Drawn date 13.08.2018		Drawn by CBO	Approval date 29.03.2019	Approved by	General Tolerance NS-ISO 2768-1-M		Projection 	Sheet 1 of 1	Scale 1:30		
Material			Surface treatment			Weight NA kg	Prod. Groupe 073	Format A3			
Title LED VMS module P16 695466 Borealis Triona						Status APPROVED		Drawing no. 10000548		Revision 0.2	
Additional description						Article no.			Project no. 695466		Document Type Assembly



Prosjekt:	Borealis	Prosjektnr.	695466	Dato:	01.04.2019	Rev.	03
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4 MERKING

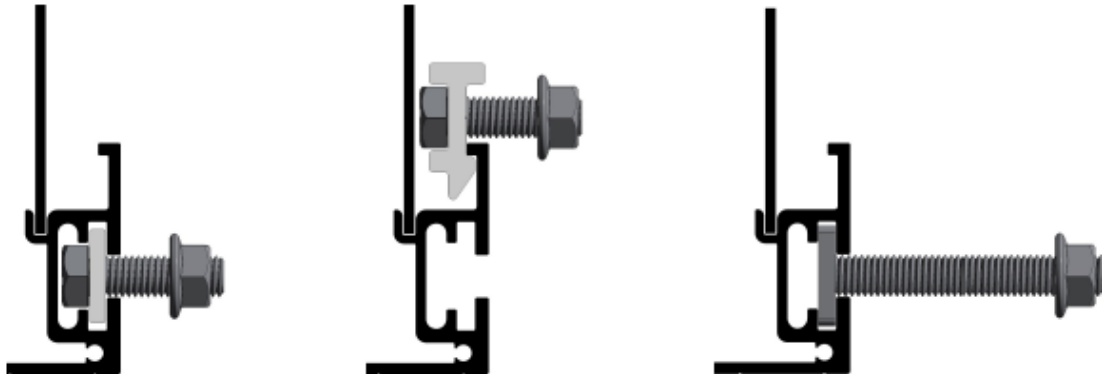
Skilt er merket med serienr. og QR-kode på en værbestandig etikett
(annen merking kan utføres på forespørsel)

4.1 Serienummer

Enhet	Nr	Serienummer	Info
LED RGB opplysningsskilt	1	SPES-2019-0021	E8 Øvre Helligskogen 2
LED RGB opplysningsskilt	2	SPES-2019-0022	E8 Lullemoen 1

Prosjekt:	Borealis	Prosjektnr.	695466	Dato:	01.04.2019	Rev.	03
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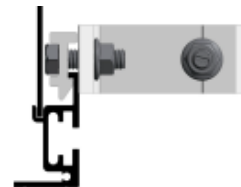
5 FESTEUTSTYR



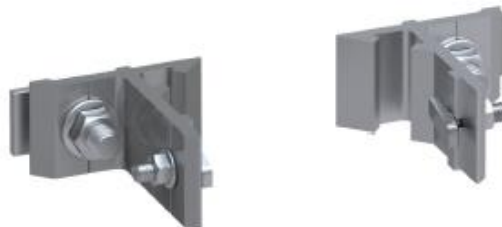
Figur 5-1: M12 Boltfester, T-bolt og hammerboltfeste

Følgende fester med glideskinne brukes for montering på Norsafe mast:

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



Figur 5-2: Glideskinne



Prosjekt:	Borealis	Prosjektnr.	695466	Dato:	01.04.2019	Rev.	03
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6 SERVICE

6.1 Service/Vedlikehold

Vennligst se vedlegg «Vaskerutiner RGB» for detaljer.

For å holde front ren må produktet inspiseres årlig og rengjøres for smuss.
For å unngå vanninntrenging med påfølgende kondensoppbygging og skader på elektronikk må det utføres kontroll av pakninger jevnlig.

Produktene tåler Statens Vegvesens normale vaskeprosedyrer.
Det anbefales ikke å vaske skiltene fra undersiden.

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

Ved behov for service:

Euroskilt AS



service@euroskilt.no

0 60 80

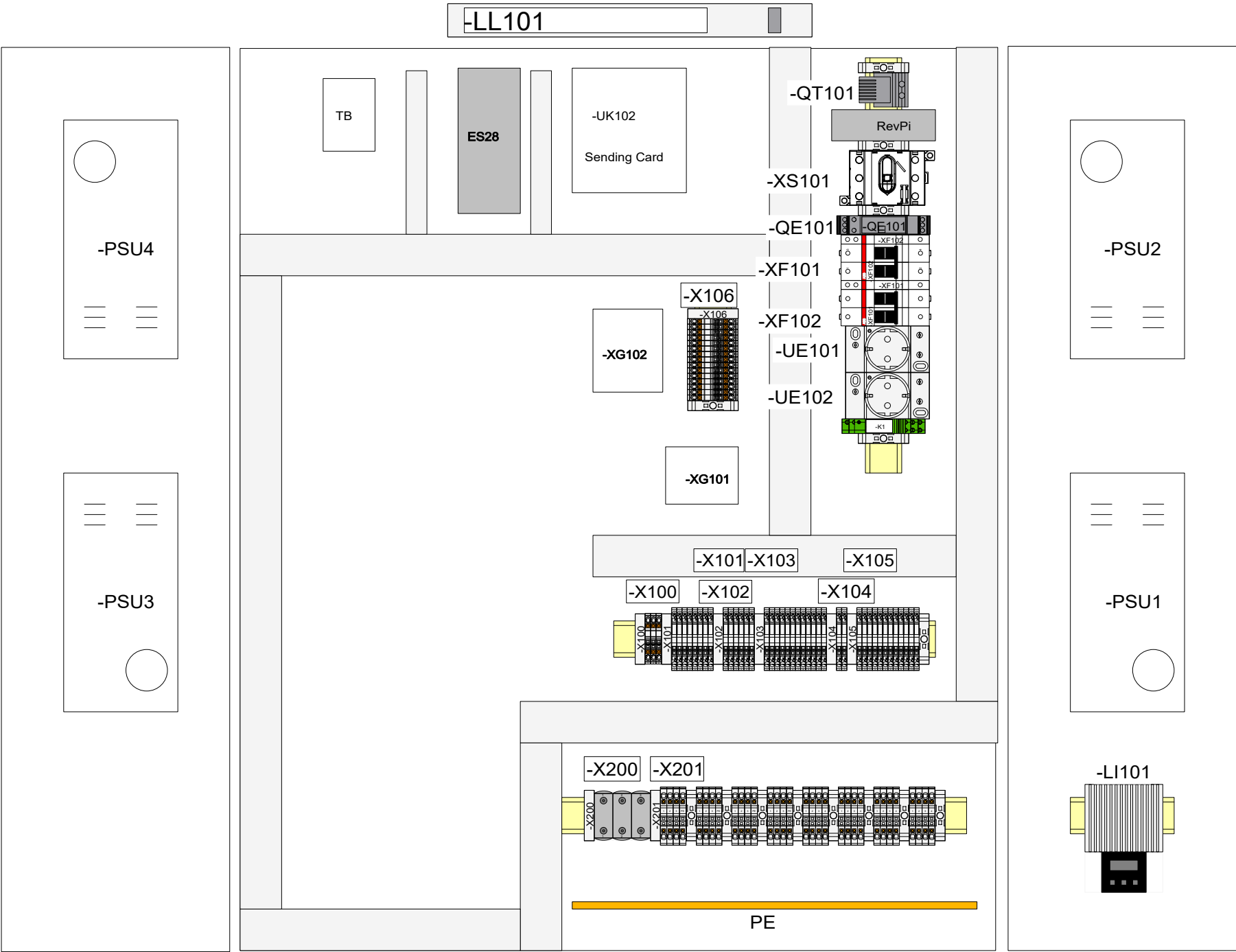
Prosjekt:	Borealis	Prosjektnr.	695466	Dato:	01.04.2019	Rev.	03
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7 VEDLEGG

Vedlegg nr.	Beskrivelse	Rev.
1	1542803-GA-01	01
2	1542803-WD-01	01
3	1542803-SD-01	01
4	Samsvarserklæring	-
5	Vaskerutine for Euroskilt RGB skilter	-

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Change date	Changed by	Approval date	Approved by	Description of change	Revision
050319	MLa			AS built	01

Drawn date 050319	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 Borealis					Status		Drawing no. 1542803-GA-01		Revision 01		
Additional description Euroskilt					Article no.			Project no.		Document Type GA	

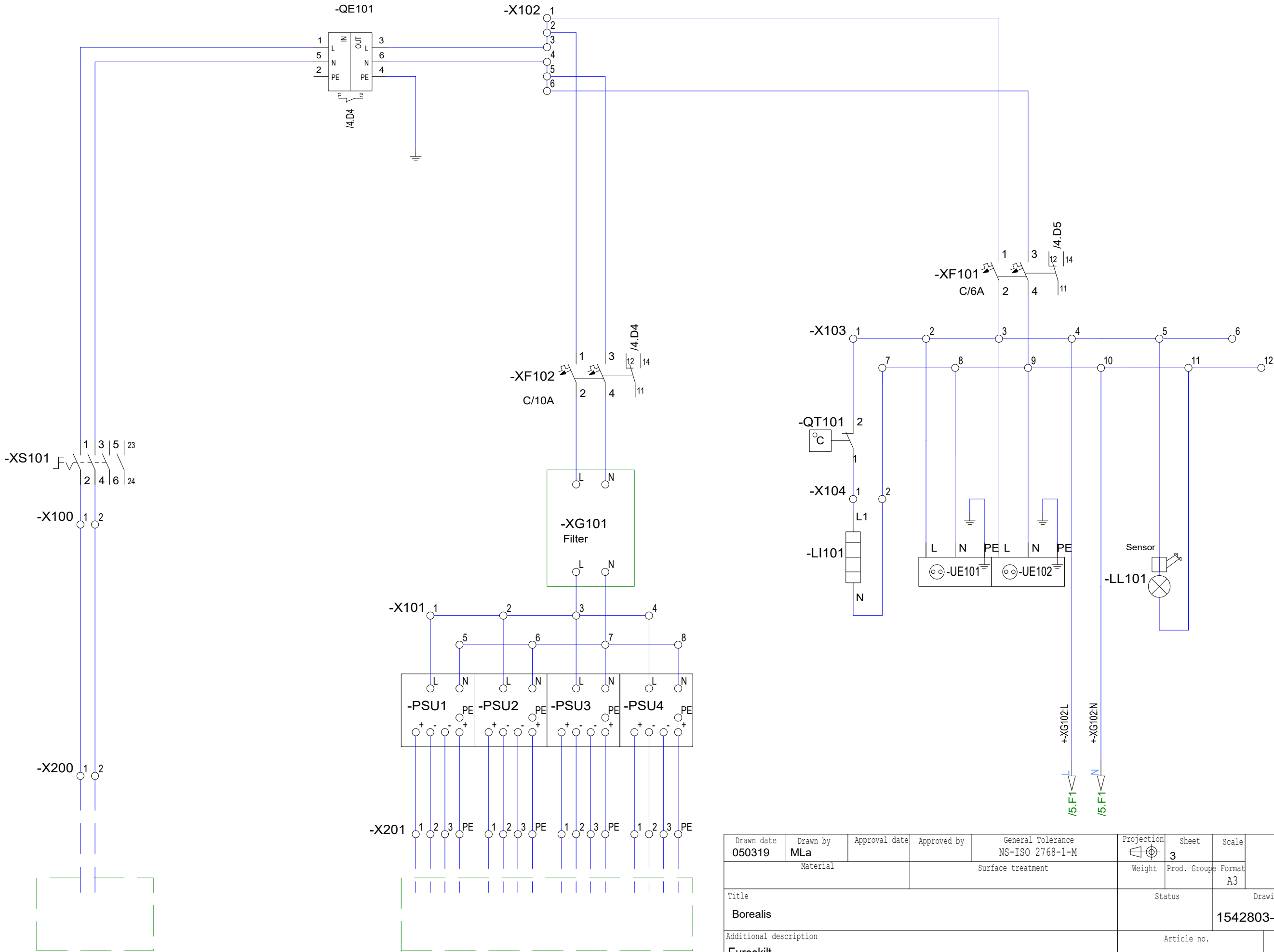
1	2	3	4	5	6	7	8			
					Change date	Changed by	Approval date	Approved by	Description of change	Revision
					050319	MLa			AS built	01
Component list										
Qty	Description	Supplier	Real manufacturer part number		Item					
1	Hovedbryter	ABB	OF63F3		XS101					
1	Automat S202M-C6	ABB	2CDS272001R0064		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					
4	Power Supply 5V DC	MeanWell	RSP 320-5		PSU1-4					
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					
156	LED Martix P16 Nichia Row x Column 12x13 (WxH)	Yaham	YHT-OT16-1R1G1B-A132-1S3-02-M		XZ108, XZ109, XZ110...XZ163					
1	Photo Sensitive Probe	Yaham	YHT-DLS-01		XP101					
1	Relay - 1CO	Releco			K1					
1	TinkerBoard s	Asus								
1	RevPi Core3	Kunbus								
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					
30	Terminal 4mm²	Phoenix	PT4		X201					
18	Terminal 2,5mm²	Phoenix	PT2,5		X100, X106					
40	Terminal 2.5mm²	Phoenix	ST 2,5		X101, X102, X103, X104, X105					
1	LED025 Skapbelysning 230V AC LED	STEGO	02540.0-01		LL101					

Drawn date	Drawn by	Approval date	Approved by	General Tolerance	Projection	Sheet	Scale			
050319	MLa			NS-ISO 2768-1-M		2				
Material			Surface treatment			Weight	Prod. Groups	Format		
								A3		
Title						Status		Drawing no.		Revision
Borealis								1542803-GA-01		01
Additional description						Article no.			Project no.	Document Type
Euroskilt										GA

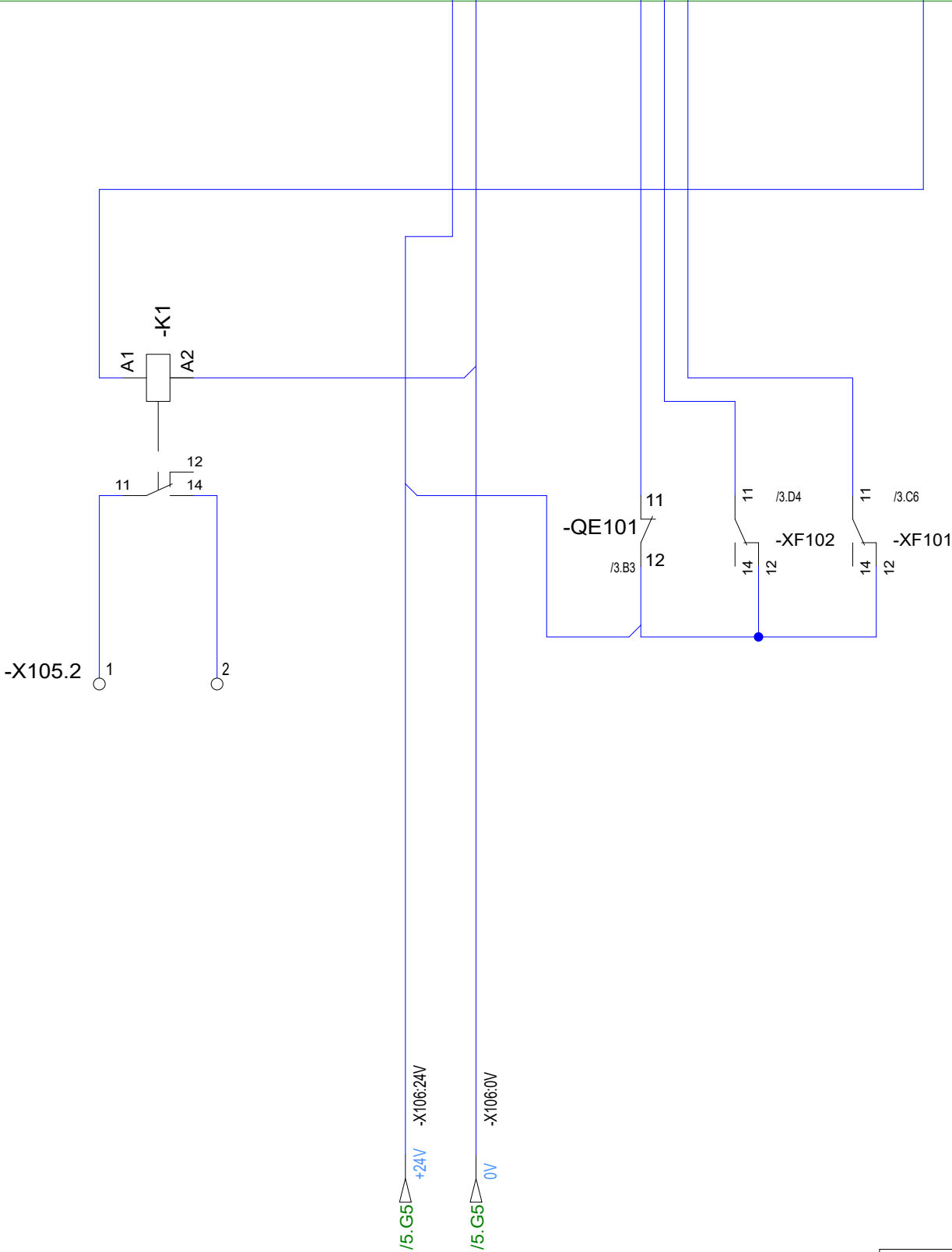
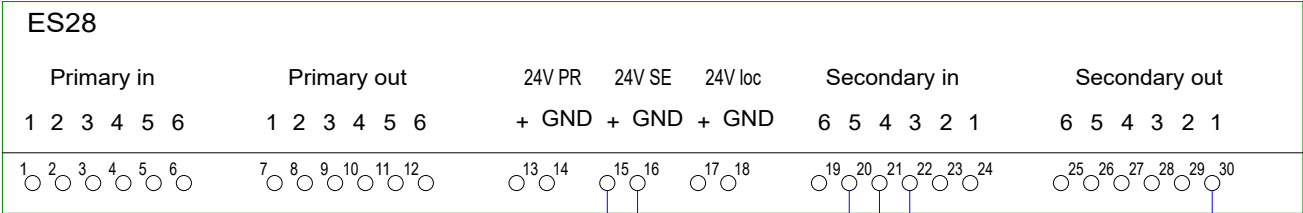
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050319	MLa			AS built	01



Drawn date 050319	Drawn by MLa	Approval date	Approved by	General Tolerance NS-ISO 2768-1-M	Projection 	Sheet 3	Scale				
Material			Surface treatment		Weight	Prod. Groups	Format A3				
Title Borealis					Status		Drawing no. 1542803-WD-01		Revision 01		
Additional description Euroskilt					Article no.			Project no.		Document Type WD	



Change date	Changed by	Approval date	Approved by	Description of change	Revision
050319	MLa			AS built	01

Drawn date 050319	Drawn by MLa	Approval date	Approved by	General Tolerance NS-ISO 2768-1-M	Projection 	Sheet 4	Scale		
Material			Surface treatment		Weight	Prod. Groupe	Format A3		
Title Borealis					Status		Drawing no. 1542803-WD-01		Revision 01
Additional description Euroskilt					Article no.			Project no.	Document Type WD

Change date	Changed by	Approval date	Approved by	Description of change	Revision
050319	MLa			AS built	01

	A
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B

C

D

E

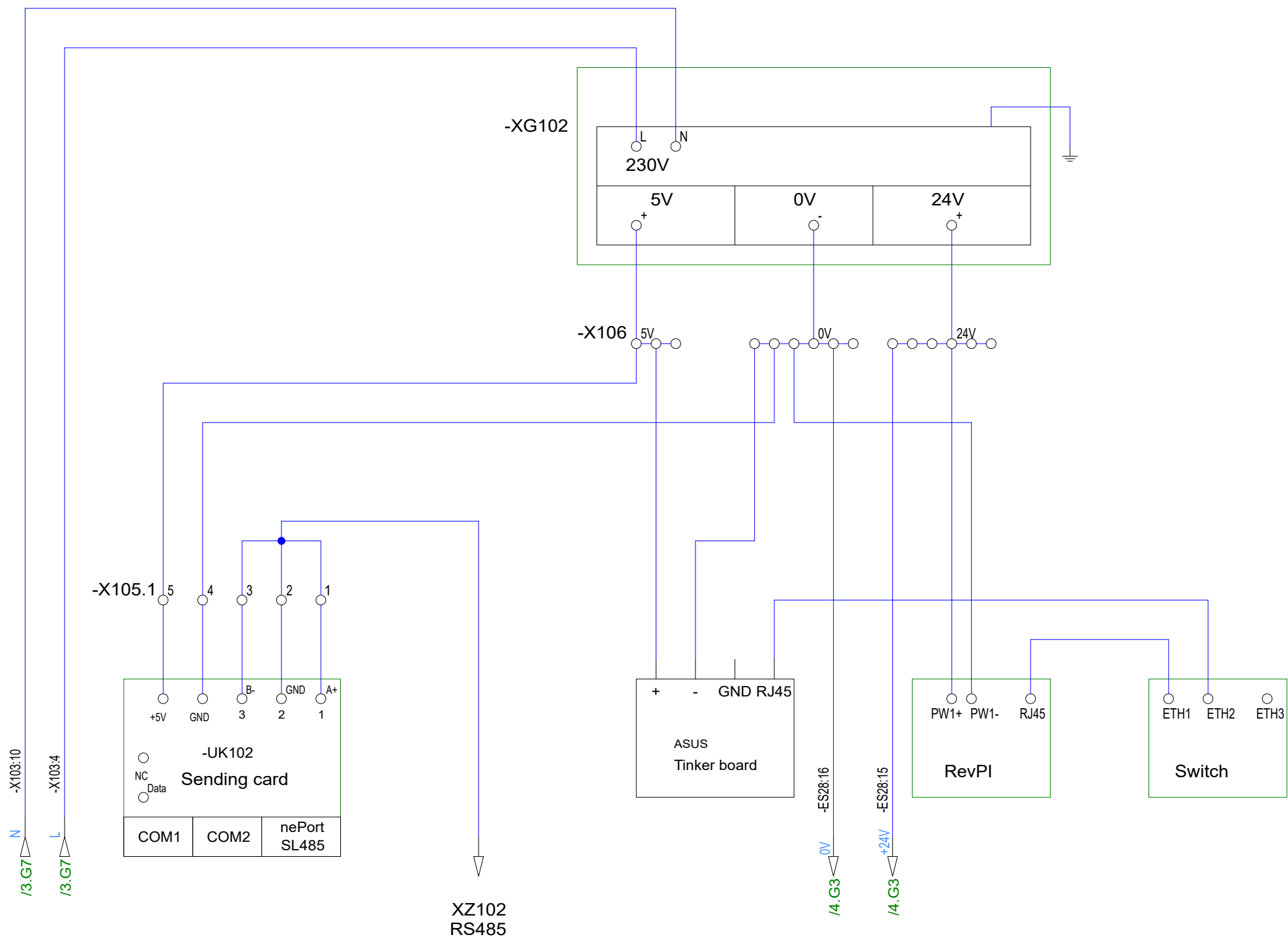
F

G

	H
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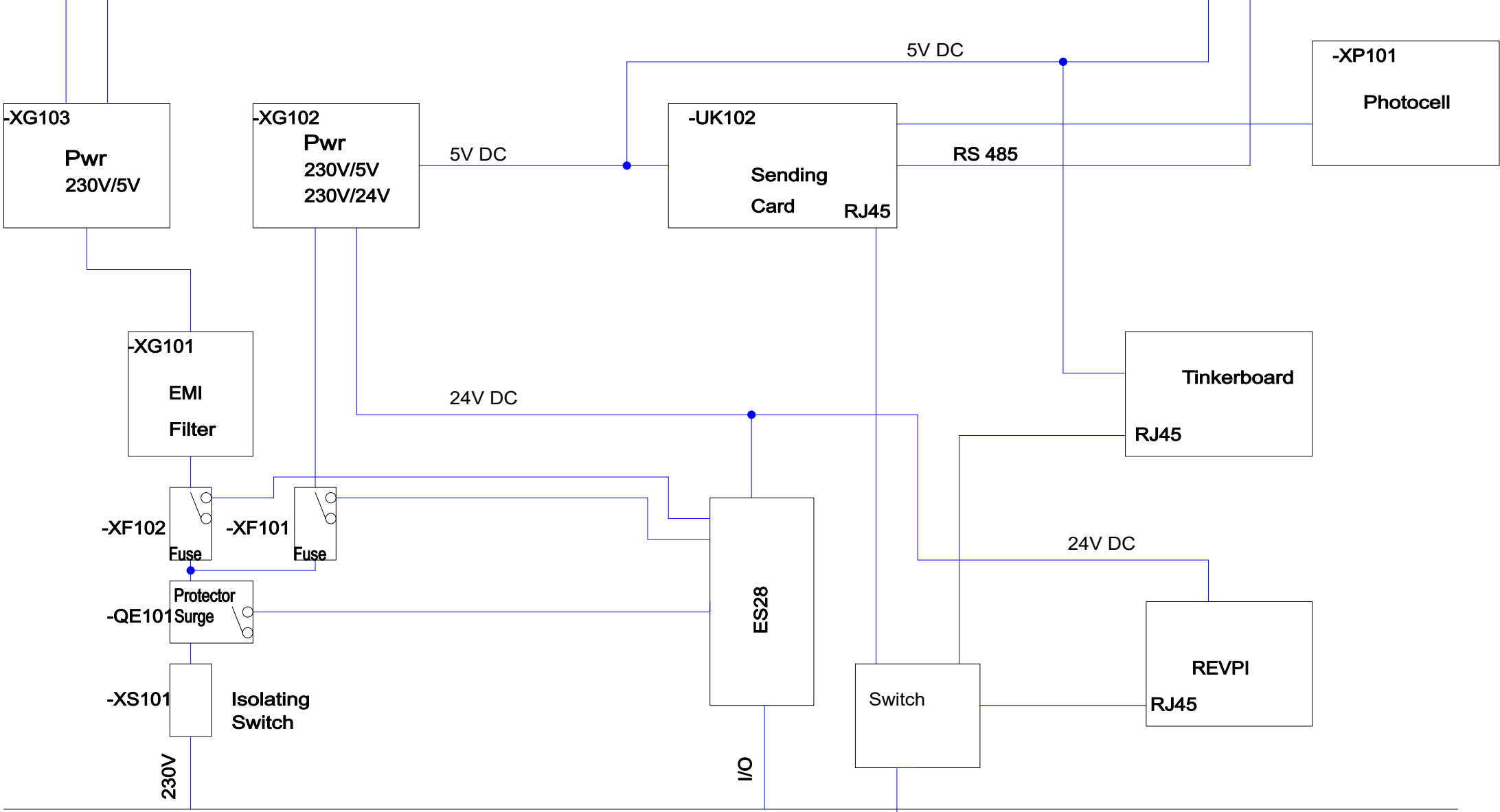
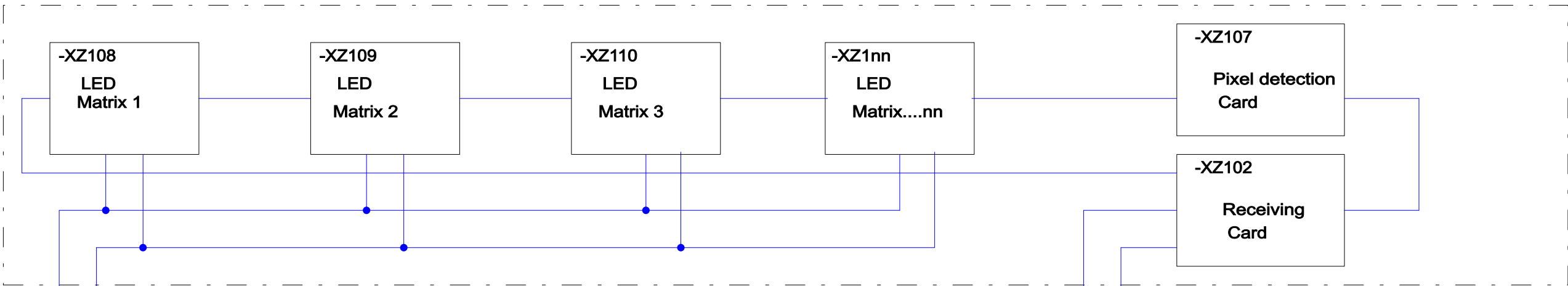


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Material			Surface treatment		Weight	Prod. Groupe	Format A3		
Title Borealis					Status		Drawing no. 1542803-WD-01		Revision 01
Additional description Euroskilt					Article no.			Project no.	Document Type WD

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Sign - LED Matrix Row x n



Fiber/RJ45

Drawn date 050319	Drawn by MLa	Approval date	Approved by	General Tolerance NS-ISO 2768-1-M	Projection 	Sheet 6	Scale		
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Title Borealis					Status		Drawing no. 1542803-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.