



E9*6R01/29*23098*03

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COMUNICACIÓN / COMMUNICATION:

Concerniente a ⁽¹⁾:

~~LA CONCESIÓN DE HOMOLOGACIÓN~~
~~LA EXTENSIÓN DE HOMOLOGACIÓN~~
~~LA DENEGACIÓN DE HOMOLOGACIÓN~~
~~LA RETIRADA DE HOMOLOGACIÓN~~
~~EL CESE DEFINITIVO DE PRODUCCIÓN~~

Concerning ⁽¹⁾:

~~APPROVAL GRANTED~~
~~APPROVAL EXTENDED~~
~~APPROVAL REFUSED~~
~~APPROVAL WITHDRAWN~~
~~PRODUCTION DEFINITELY DISCONTINUED~~

de un tipo de indicador de dirección en aplicación del Reglamento N° 6.
of a type of direction indicator pursuant to Regulation No. 6.

N° de homologación / Approval No.: E9*6R01/29*23098*03

Extensión N° / Extension No.: 3

1. Marca de fábrica o comercial del dispositivo / Trade name or mark of the device: FRISTOM
2. Designación del tipo de dispositivo dado por el fabricante / Manufacturer's name for the type of device: FT-270 LED
3. Nombre y dirección del fabricante / Manufacturer's name and address:
FRISTOM SPÓLKA Z OGRANICZONA
ODPOWIEDZIALNOSCIA SPÓLKA
KOMANDYTOWA
UL. PRZEMYSŁOWA 5, 86-014
85416 SICIENKO
SICIENKO (POLONIA)

Nota / Note: Este dispositivo puede ser fabricado en cualquiera de las Plantas de Fabricación que consten declaradas en el Anexo I del Certificado Conformidad Producción en vigor emitido por la UCA. / This device may be manufactured in any of the Manufacturing Plants declared in Annex I of the Conformity Production Certificate in force issued by the UCA.

4. En su caso, nombre y dirección del representante del fabricante / If applicable, name and address of manufacturer's representative: ---
5. Dispositivo presentado a homologación el / Submitted for approval on: 07/04/2021
6. Servicio técnico encargado de los ensayos de homologación / Technical service responsible for conducting approval test: IDIADA
7. Fecha del informe emitido por dicho servicio / Date of report issued by that service: 27/04/2021
8. Número del informe emitido por dicho servicio / Number of report issued by that service: PC19060173, PC19090220, PC20020152, PC20050211, **PC21050056**

(1) Táchese lo que no proceda / Strike out what does not apply





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9. Breve descripción / Concise description:

- Categoría / Category: ~~1, 1a, 1b, 2a, 2b, 5, 6~~ ⁽¹⁾
 - Número y categoría(s) de la(s) fuente(s) luminosa(s) / Number and category(ies) of light source(s): 6xLEDs
 - Función(es) producida(s) por una lámpara interdependiente que forma parte de un sistema de lámparas interdependientes / Function(s) produced by an interdependent lamp forming part of an interdependent lamps system: ---
 - Voltaje y potencia / Voltage and wattage: 12V, 15W
 - Código de identificación específico del módulo de fuente de luz / Light source module specific identification code: ---
 - Solamente para instalación limitada en altura igual o inferior a 750 mm por encima del suelo / Only for limited mounting height of equal to or less than 750 mm above the ground: ~~si~~ yes - no / no ⁽¹⁾
 - Condiciones geométricas de instalación y variaciones relacionadas, en su caso / Geometrical conditions of installation and relating variations, if any: ---
 - Aplicación de una guía de control electrónica/control de intensidad variable de la fuente luminosa / Application of an electronic light source control gear/variable intensity control: ---
 - a) formando parte de la luz / being part of the lamp: ~~si~~ yes - no / no ⁽¹⁾
 - b) no formando parte de la luz / being not part of the lamp: ~~si~~ yes - no / no ⁽¹⁾
 - Tensión(es) de entrada suministrada(s) por la guía de control electrónica/control de intensidad variable de la(s) fuente(s) luminosa(s) / Input voltage(s) supplied by an electronic light source control gear/variable intensity control: ---
 - Fabricante de la guía de control electrónica/control de intensidad variable de la(s) fuente(s) luminosa(s) y número de identificación (cuando la guía de control de la fuente luminosa forma parte de la luz pero no está incluida en el cuerpo de la luz) / Electronic light source control gear/variable intensity control manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body): ---
 - Intensidad luminosa variable / Variable luminous intensity: ~~si~~ yes - no / no ⁽¹⁾
 - Activación secuencial de las fuentes luminosas (ver parágrafo 5.6. de la Regulación) / Sequential activation of light sources (see paragraph 5.6. of this Regulation): ~~si~~ yes - no / no ⁽¹⁾
10. Posición de la marca de homologación / Position of the approval mark: Ver documentación suministrada por el fabricante / See documentation supplied by the manufacturer.
11. Motivos de la extensión (en su caso) / Reason(s) of extension (if applicable):
a) Dimensiones físicas del reflector de categoría IIIA se corrigen de acuerdo a: / Physical dimensions of reflex reflector cat. IIIA have been corrected according to: R003 - E/ECE/324/Add.2/Rev.4 E/ECE/TRANS/505/Add.2/Rev.4 Annex 5-par 2.6
b) Se añade esquema de conexiones LED / Scheme of LED connections has been added

⁽¹⁾ Táchese lo que no proceda / Strike out what does not apply





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12. Se ~~concede~~/deniega/extiende/~~retira~~ la homologación ⁽¹⁾ / ~~Approval granted/refused/extended/withdrawn~~ ⁽¹⁾

13. Lugar / Place: Madrid

14. Fecha / Date: Ver firma electrónica / See electronic signature

15. Firma / Signature:

EL SUBDIRECTOR GENERAL DE CALIDAD Y SEGURIDAD INDUSTRIAL

Resolución P.D. del DIRECTOR GENERAL DE INDUSTRIA Y DE LA PYME de 25-10-2012

16. Se adjunta la lista de apartados que constituyen el expediente de homologación depositado en el servicio administrativo que ha concedido la homologación y que pueden ser obtenidos a petición. / The list of documents deposited with the Administrative Service which has granted approval is annexed to this communication and may be obtained on request.

- Informe del ensayo / Test report
- Documentación suministrada por el fabricante / Documentation supplied by the manufacturer

⁽¹⁾ Táchese lo que no proceda / Strike out what does not apply





INFORME Nº / REPORT No. PC21050056

RELATIVO A LA EXTENSIÓN DE HOMOLOGACIÓN DE INDICADORES DE DIRECCIÓN PARA VEHÍCULOS A MOTOR Y SUS REMOLQUES SEGÚN EL REGLAMENTO 6.01 ECE / *CONCERNING THE APPROVAL EXTENSION OF DIRECTION INDICATORS FOR POWER-DRIVEN VEHICLES AND THEIR TRAILERS ACCORDING TO REGULATION 6.01 ECE*

EXTENSIÓN III/ EXTENSION III

Nombre y dirección del fabricante /
Manufacturer's name and address : FRISTOM SPÓLKA Z OGRANICZONĄ
ODPOWIEDZIALNOSCIA SPÓLKA
KOMANDYTOWA
UL. PRZEMYSŁOWA 5, 86-014
85416 SICIENKO
SICIENKO (POLONIA)

Marca comercial / *Trade mark* : FRISTOM

Tipo / *Type* : FT-270 LED

Lugar y fecha de emisión del informe /
Place and date of test report issue : L'Albornar, Santa Oliva (Tarragona)
27/04/2021

CONCLUSIONES / CONCLUSIONS: Las modificaciones introducidas, que se detallan en el Anexo a este Informe, son objeto de extensión de homologación respecto al tipo homologado por este servicio (Informe Nº PC19060173, PC19090220, PC20020152, PC20050211) **CUMPLE** con las prescripciones uniformes relativas a la homologación de indicadores de dirección de categoría 2a para automóviles y sus remolques, correspondientes al Reglamento 6.01 ECE según se detalla en la hoja de ensayo anexa a este informe. / *Modifications introduced, as detailed in the Annex attached to this report, are extension of homologation with respect to formerly certified type performed by this technical department (Test Report No. PC19060173, PC19090220, PC20020152, PC20050211) FULFILLS the prescriptions with regard to the direction indicators of category 2a for motor vehicles and their trailers approval in application of Regulation No. 6.01 ECE as detailed in annex to this report*

Realizado por / *Performed by:*



Joan Fonts Sala
INGENIERO DE ENSAYOS
TEST ENGINEER

V. Bº. / *Revised by:*



Ramon Santafè Guiu
JEFE DE DEPARTAMENTO
DEPARTMENT MANAGER

* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.
THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE
* QUEDA TERMINANTEMENTE PROHIBIDA LA REPRODUCCIÓN PARCIAL DE ESTE INFORME SIN PERMISO EXPRESO DE IDIADA.
THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN



**ANEXO AL INFORME
ANNEX TO THE REPORT**

RELATIVO A LA EXTENSIÓN DE HOMOLOGACIÓN DE INDICADORES DE DIRECCIÓN PARA
VEHÍCULOS A MOTOR Y SUS REMOLQUES SEGÚN EL REGLAMENTO 6.01 ECE / *CONCERNING
THE APPROVAL EXTENSION OF DIRECTION INDICATORS FOR POWER-DRIVEN VEHICLES AND THEIR
TRAILERS ACCORDING TO REGULATION 6.01 ECE*

Nombre y dirección del fabricante /
Manufacturer's name and address : FRISTOM SPÓLKA Z OGRANICZONA
ODPOWIEDZIALNOSCIA SPÓLKA
KOMANDYTOWA
UL. PRZEMYSŁOWA 5, 86-014
85416 SICIENKO
SICIENKO (POLONIA)

Marca comercial / *Trade mark* : FRISTOM

Tipo / *Type* : FT-270 LED

Identificación de las muestras /
Sample identification : HTC-2104/0194

Luz / *Lamp* *: - Simple / *Single* (2.16.1 (a) R.48)
- Simple marcada "D" (Luz doble) / *Single marked "D" (Double lamp)* (2.16.1 (b) R.48)
- Simple marcada "Y" (Luz interdependiente) / *Single marked "Y" (Interdependent lamp)* (2.16.1 (d) R.48)

Número y categoría(s) de la(s) fuente(s) luminosa(s) /
Light source(s) number and category(ies) : 6xLEDs

Módulo de fuente luminosa /
Light source module * : Sí / *Yes* - No / *No*

Código específico de identificación del módulo de fuente luminosa /
Light source module specific identification code: ----

* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.
THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE

* QUEDA TERMINANTEMENTE PROHIBIDA LA REPRODUCCIÓN PARCIAL DE ESTE INFORME SIN PERMISO EXPRESO DE IDIADA.
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MOTIVO DE EXTENSIÓN/ REASON OF EXTENSION:

- a) Dimensiones físicas del reflector de categoría IIIA se corrigen de acuerdo a: / *Phyycal dimensions of réflex reflector cat. IIIA han been corrected according to: R003 – E/ECE/324/Add.2/Rev.4 E/ECE/TRANS/505/Add.2/Rev.4 Annex 5-par 2.6*
- b) Se añade esquema de conexiones LED / *Scheme of LED connections has been added*

Lugar / Place: L'Albornar, E-43710 Santa Oliva (Tarragona)
Fecha / Date: 27/04/2021

Joan Fonts Sala
INGENIERO DE ENSAYOS
TEST ENGINEER

Validate this report with the security code «1ENMUNJ6» at: <https://extranet.idiada.com/hom-cve>
Verifique el informe con código de seguridad «1ENMUNJ6» en: <https://extranet.idiada.com/hom-cve>

IDIADA PC21050056

* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.
THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE

* QUEDA TERMINANTEMENTE PROHIBIDA LA REPRODUCCIÓN PARCIAL DE ESTE INFORME SIN PERMISO EXPRESO DE IDIADA.
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DOCUMENTACIÓN TÉCNICA /
TECHNICAL DOCUMENTATION

INFORMATION FOLDER:

DATE: 16.04.2021

1. Specification data

Type	FT-270 LED	
Trade name or mark	Fristom	
Variants	See drawing	
Function	rear position R1 ; stop light S1 ; retro reflex reflector cat IIIA , rear fog light F1 ,registration plate light L, reversing light AR, rear direction indicator light 2a	
Color	red light color , white light color , amber light color	
Rated	Voltage	12V
	Wattage	R1=4W ; R1+L=5W ; S1=5W ; F1=5W ; AR=4W ; 2a=15W
Applicable Regulation		R03;R04;R06;R07;R23;R38
Light Source and connection		R1 - 4 LED's serial connected in 2 parallel sections S1 - all 8 LED's series-parallel connected 2a - 3 LED's serial connected in 2 parallel sections F1 - all 8 LED's series-parallel connected AR- all 6 LED's series-parallel connected L - 3 LED's serial connected
Location of marking	Light Source marks	See the drawing
	Trade mark	Marked on reflex reflector visible under lampshade
	Approval mark	Marked on the lampshade

2. Construction and material

Construction	Material	Remarks
Lenses	Defined on the technical drawing	--
Reflectors	Defined on the technical drawing	--
Bases	Defined on the technical drawing	--

2. Name and address of manufacturer:

FRISTOM Spółka z ograniczoną odpowiedzialnością Spółka komandytowa
86-014 Sicienko / Polska
ul. Przemysłowa 5
NIP: 5542926937, KRS: 0000529238
Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41

4. REASON OF THE APPROVAL EXTENSION:

- a) Physycal dimensions of reflex reflector cat. IIIA has been corrected according:
R003 - E/ECE/324/Add.2/Rev.4 E/ECE/TRANS/505/Add.2/Rev.4 Annex 5 – par 2.6
b) schemes of LED connections has been added

NOTE : APPROVAL MARKINGS ARE SHOWN IN THE ATTACHED DRAWING.
THIS INFORMATION FOLDER CONSISTS OF 1 PAGES

FRISTOM
Spółka z ograniczoną odpowiedzialnością Sp. k.
86-014 SICIENKO, ul. Przemysłowa 5
tel. 52 360 90 50
www.fristom.com.pl
NIP: 5542926937 REGON 341640907
MICHAŁ DYBIZ

IDIADA PC21050056

Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp. K.
85-014 Ścielenko / Polska
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NIP: 5542926937, NRS: 0000529238
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Drawn by: **Date:** 13-04-2020

Michał Dybicz

Sheet Nr. 1/13

Type

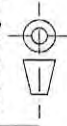
FT-270 LED - rear multifunction lamp for trailers EXT03

light source

LED chip SMD chip mounted
AR - 6 LED's - white light color
R1 - 8 LED's - red light color
S1 - 8 LED's - red light color
2a - 6 LED's - amber light color
L - 3 LED's - white light color

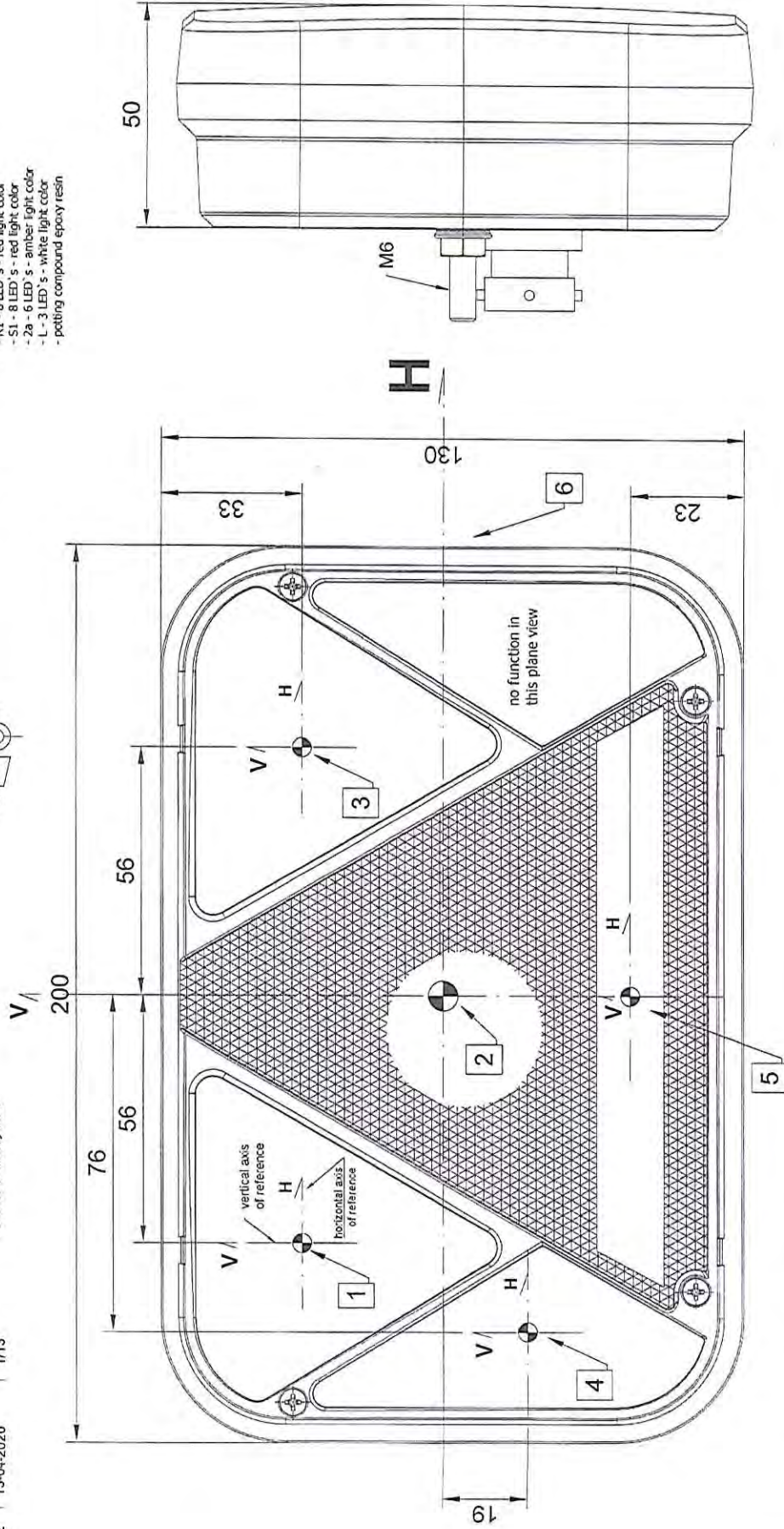
sheet description

general drawing / lamp functions / assembly on vehicle
This drawing is a part of the application for approval



Material used in manufacturing :

- lamshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator FL PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metalized
- PCB FR4
- AR - 6 LED's - white light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin



- 1 - center of reference direction indicator 2a
- 2 - center of reference reflex reflector cat IIIA
- 3 - center of reference rear fog or reversing light (F1 or AR)
- 4 - center of reference stop light cat S1
- 5 - center of reference rear position light cat R1
- 6 - registration plate light

note: FT-270 LED left lamp view (right lamp is a mirror)
only horizontal assembly

FRISTOM

Spółka z ograniczoną odpowiedzialnością Sp. k.
85-014 ŚCIENKO, ul. Przemysłowa 5

tel. 52 360 90 50

www.fristom.com.pl

REGON 341640907

MICHAŁ DYBICZ

PC21050056

Manufacturer

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Tel. +48 52 350 50 51, Fax. +48 52 327 75 41



Drawn by: Michał Dybicz

Date: 13-04-2020

sheet Nr.

2/13

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

light source

LED Chip SMD chip mounted
R1 - 6 LED's - white light color
R2 - 6 LED's - red light color
R3 - 8 LED's - red light color
S1 - 8 LED's - red light color
Za - 6 LED's - red light color
L - 3 LED's - white light color

sheet description

reflex reflector cat. IIIA dimension and surface

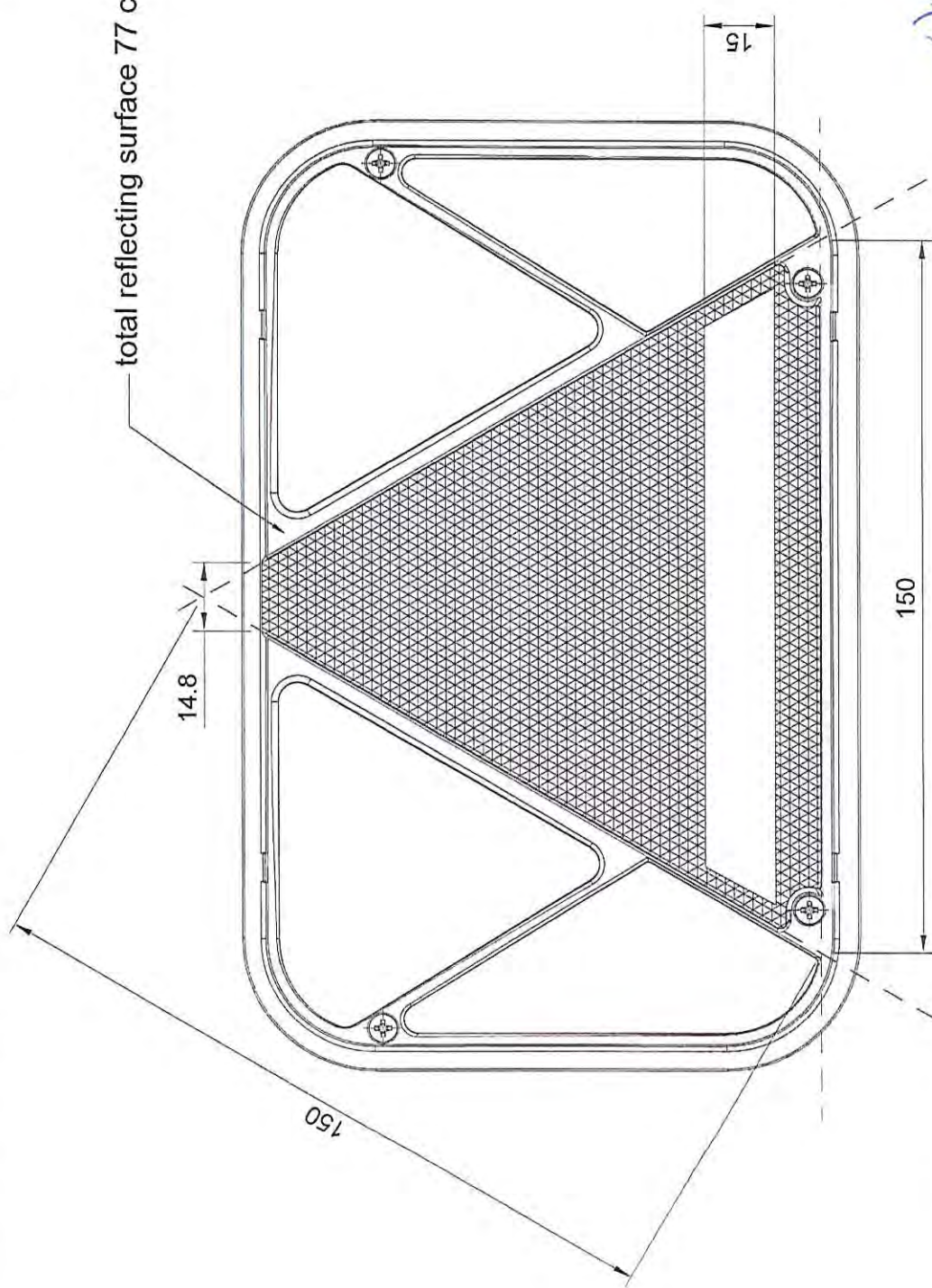
This drawing is a part of the application for approval



Material used in manufacturing :

- lampshade PC transparent clear
- coil motor AR PMMA transparent clear
- coil motor FL PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- IIIA reflector and RI lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- R1 - 8 LED's - red light color
- R2 - 6 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - red light color
- L - 3 LED's - white light color
- potting compound epoxy resin

total reflecting surface 77 cm²



FRISTOM

Spółka z ograniczoną odpowiedzialnością Sp. K.
86-014 SICIENKO, ul. Przemysłowa 5

tel. 52 350 50 50

www.fristom.com.pl

REGON 341640907

MICHAŁ DYBICZ

IDIADA PC21050056

Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp. K.
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Drawn by: **Date:** 13-04-2020

Michał Dybicz

sheet Nr.

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Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

light source

LED CHIP SMD chip mounted
AR - 6 LED's - white light color
F1 - 8 LED's - red light color
R1 - 8 LED's - red light color
S1 - 8 LED's - red light color
2a - 6 LED's - amber light color
L - 3 LED's - white light color

sheet description

vehicle assembly

This drawing is a part of the application for approval

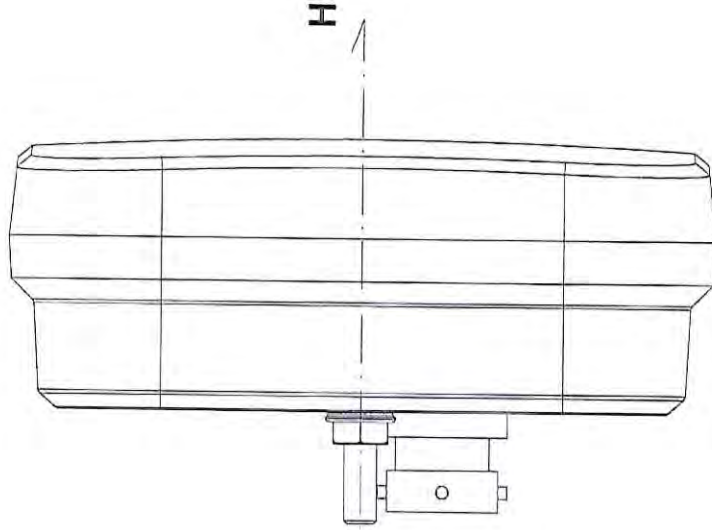
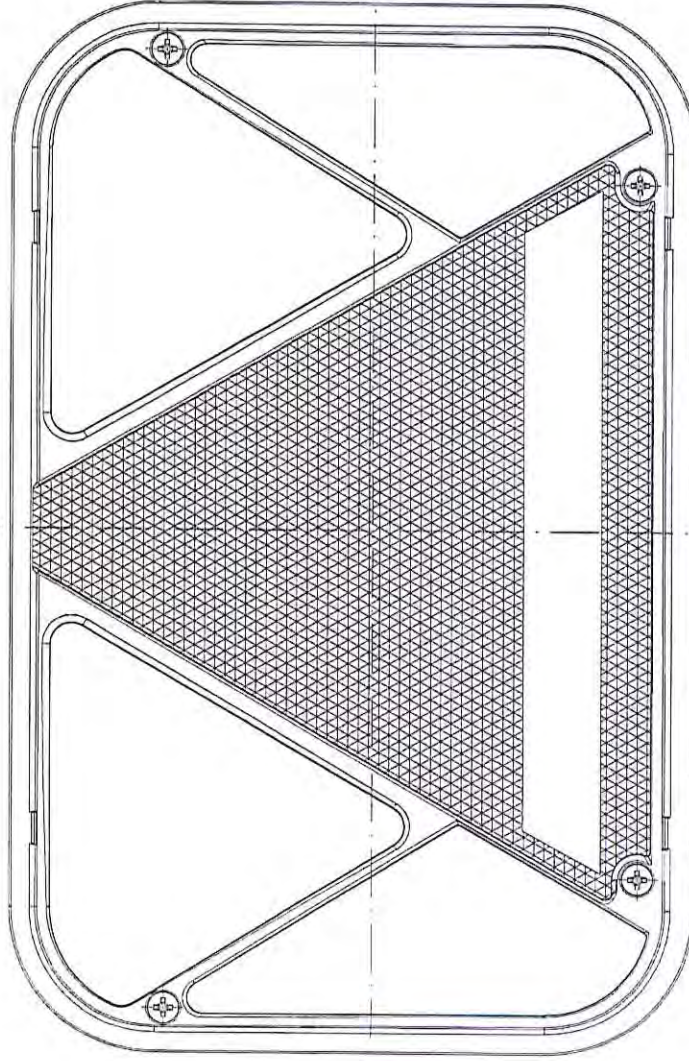


Material used in manufacturing :

- lampshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator F1 PMMA transparent clear
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- registration plate reflector ABS black vacuum metalized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

V
↑
top
of
vehicle

forward
driving
direction
→



FRISTOM
Spółka z ograniczoną odpowiedzialnością Sp. k.
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MICHAŁ DYBICZ

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Drawn by: **Date:** **28-05-2020** **sheet Nr.** **4/13**

Michał Dybicz

electrical parameters

stop - 5W
rear fog - 5W
reversing - 4W
rear position + reg. plate - 5W
rear position only - 4W
direction indicator - 15W

note:
schemes
shown are
simplified

FT- 270 LED - rear multifunction lamp for trailers EXT03

Material used in manufacturing :

- lensshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator FI PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2x PMMA transparent amber
- IIIA reflector and RI lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- FI - 8 LED's - red light color
- RI - 8 LED's - red light color
- SI - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

sheet description

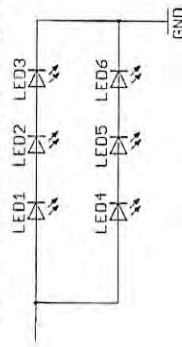
LED connections

This drawing is a part of the application for approval

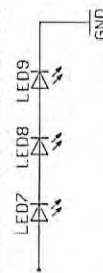
light source

LED Chip SMD 5050
AR - 6 LED's - white light color
FI - 8 LED's - red light color
RI - 8 LED's - red light color
SI - 8 LED's - red light color
2a - 6 LED's - amber light color
L - 3 LED's - white light color

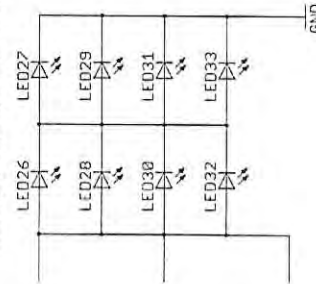
direction indicator amber light colour LED's



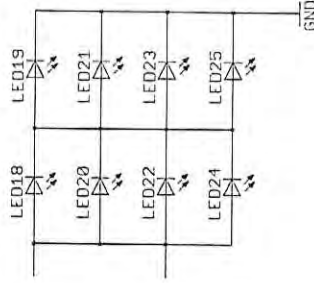
registration plate light white light colour LED's



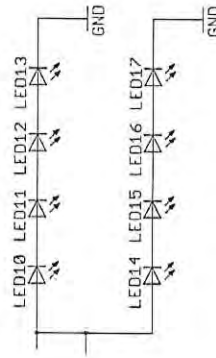
rear fog light red light colour LED's



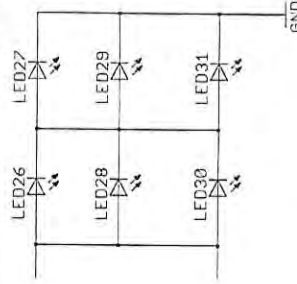
stop light red light colour LED's



rear position light red light colour LED's



reversing light white light colour LED's



FRISTOM

Spółka z ograniczoną odpowiedzialnością Sp. k.
88-014 SICIENKO, ul. Przemysłowa 5

tel. 52 360 90 50

www.fristom.com.pl

NIP 5542826937 KRS 0000532238

IBIADA

PC21050056

Manufacturer

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NIP: 5542526937 KRS: 0000529238
Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41



Drawn by: **Date:** 13-04-2020

Michał Dybicz

sheet Nr.

5/13

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

light source

LED CHIP SMD chip mounted
AR - 6 LED's - white light color
F1 - 8 LED's - red light color
R1 - 8 LED's - red light color
S1 - 8 LED's - red light color
Za - 6 LED's - amber light color
L - 3 LED's - white light color

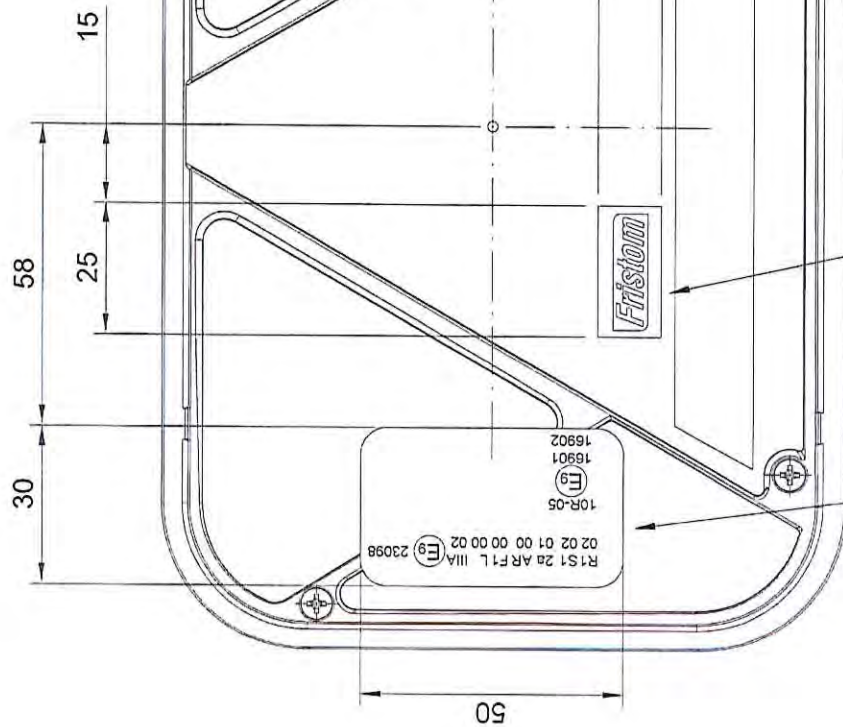
sheet description

marking of trademark and approvals

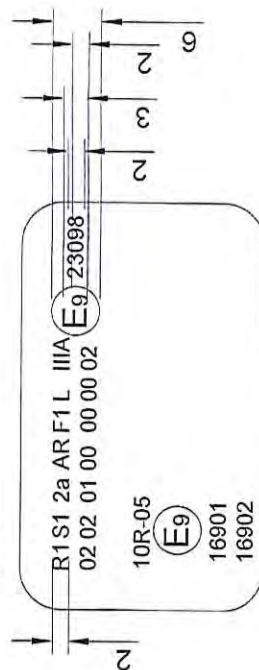
This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- collimator AR PMMA transparent clear
- collimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin



approval marking dimensions:



place for trademark
place for approval markings

IDIADA PC21050056

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Drawn by: **Date:** 13-04-2020

Sheet Nr.: 6/13

Michał Dybicz

Type

FT-270 LED - rear multifunction lamp for trailers EXT03

light source

LED Chip SMD chip mounted
AR - 6 LED's - white light color
F1 - 8 LED's - red light color
S1 - 8 LED's - red light color
S1 - 8 LED's - red light color
2a - 6 LED's - amber light color
L - 3 LED's - white light color

sheet description

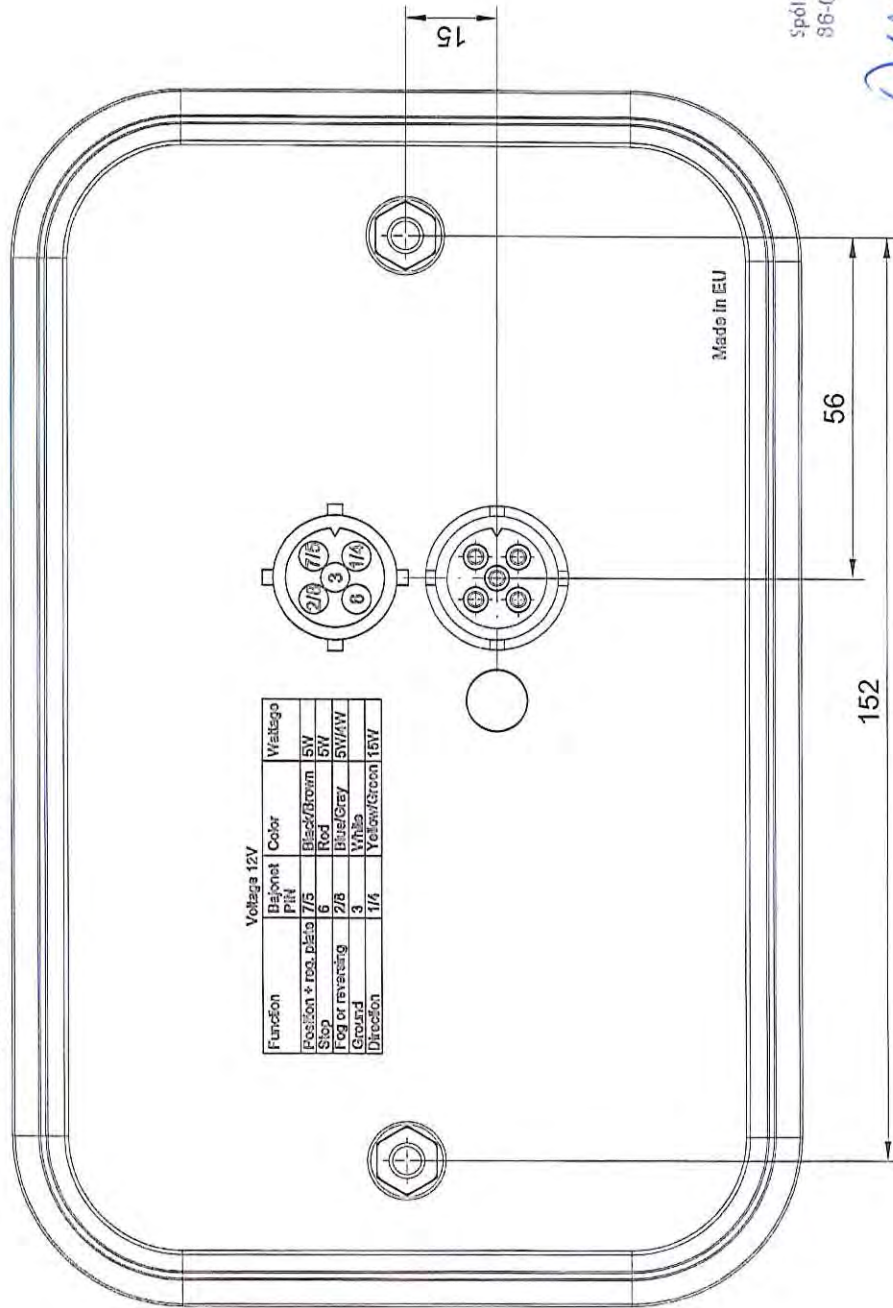
electrical parameters marking on housing

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- colimator AQ PMMA transparent clear
- colimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens za PMMA transparent amber
- IIIA resistor and R1 Iere PMMA transparent red
- registration plate reflector ABS black vacuum metalized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

left lamp housing view bajonet version



Voltage 12V			
Function	Bajonet Pin	Color	Wattage
Position + 103, 0160	7/5	Black/Brown	5W
Stop	6	Red	5W
Fog or reversing	2/8	Blue/Grey	5W/4W
Ground	3	White	
Direction	1/4	Yellow/Green	16W

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Drawn by: **Date:** **sheet Nr.**

Michał Dybicz 13-04-2020 7/13

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

light source

LED chip SMD chip mounted
AR - 6 LED's - white light color
F1 - 8 LED's - red light color
R1 - 8 LED's - red light color
S1 - 8 LED's - red light color
Za - 6 LED's - amber light color
L - 3 LED's - white light color

sheet description

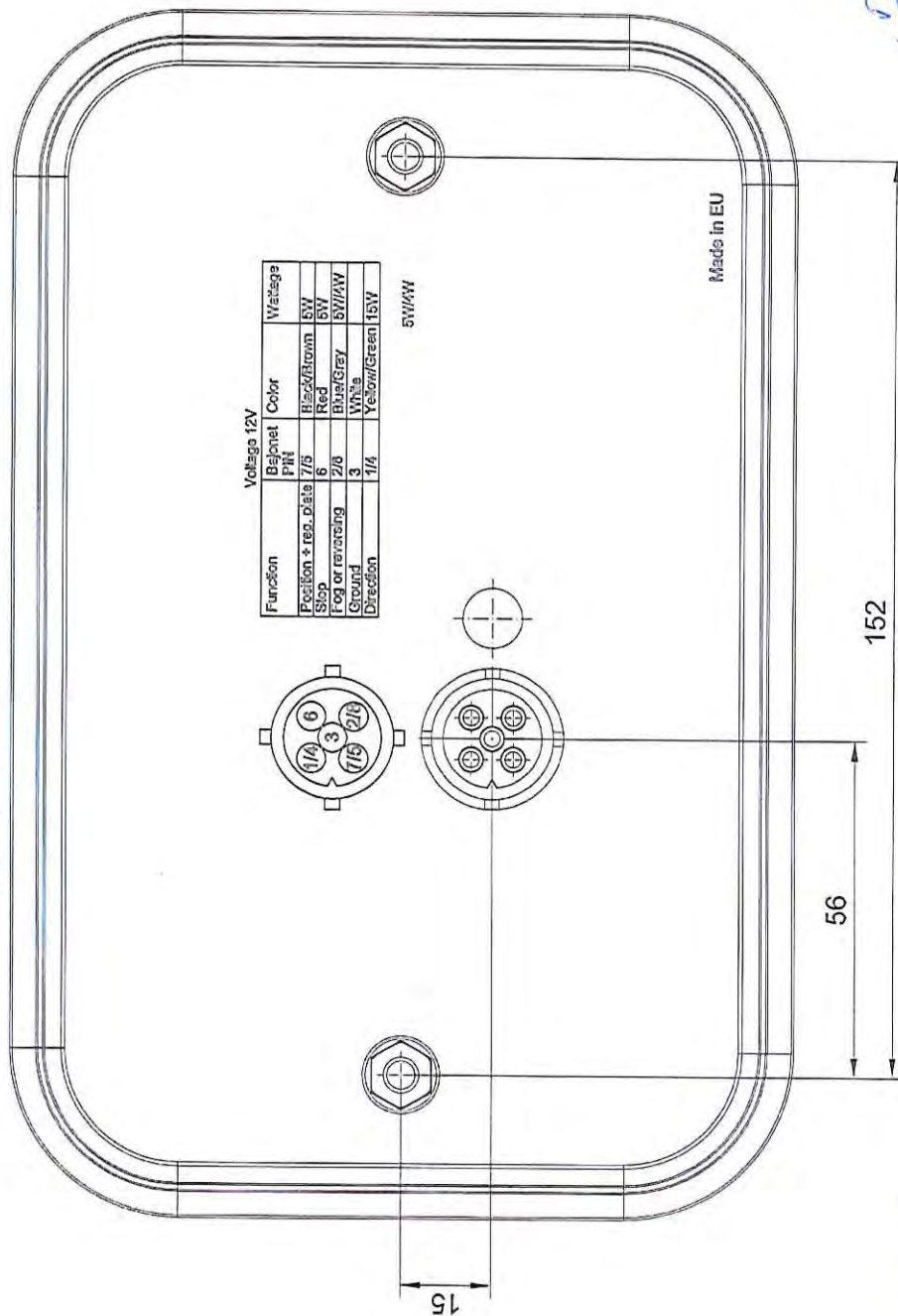
electrical parameters marking on housing

This drawing is a part of the application for approval

Material used in manufacturing :

- lensshade PC transparent clear
- collimator AR PMMA transparent clear
- collimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- IIIA reflector and F1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metalized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

right lamp housing view bajonet version



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Drawn by: **Date:**

Michał Dybicz 13-04-2020

sheet Nr.

8/13

Type

FT-270 LED - rear multifunction lamp for trailers EXT03

light source

LED chip SMD chip mounted
AR - 6 LED's - white light color
F1 - 8 LED's - white light color
R1 - 8 LED's - red light color
S1 - 8 LED's - red light color
2a - 6 LED's - amber light color
L - 3 LED's - white light color

sheet description

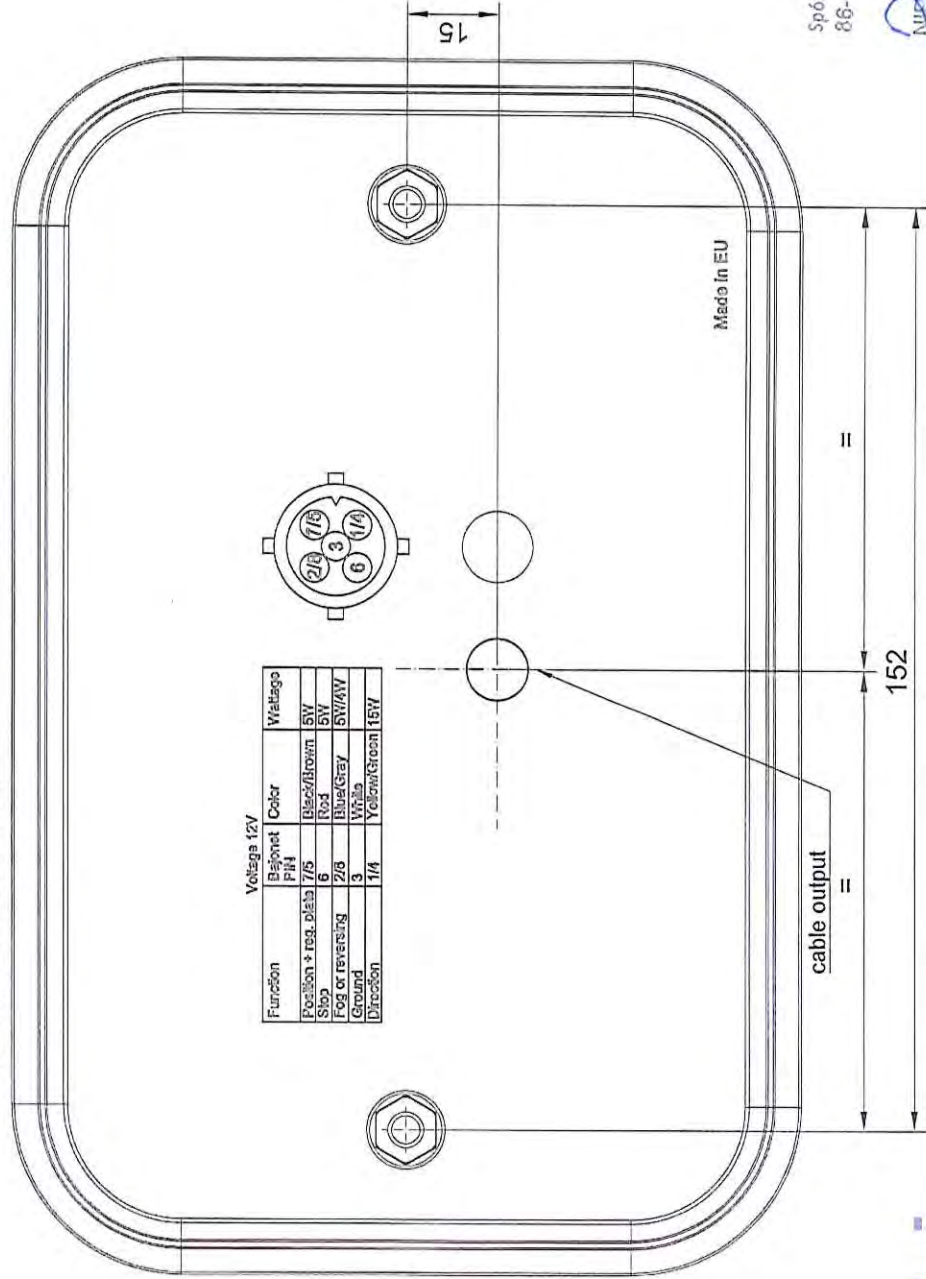
electrical parameters marking on housing

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- lens 3a PMMA transparent red
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

left lamp housing view cable version



Function	Assignment	Color	Wattage
Position + reg. Delta	7/5	Black/White	5W
Stop	6	Red	5W
Fog or reversing	2/8	Blue/Gray	5W/4W
Ground	3	White	
Direction	1/4	Yellow/Green	15W

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Drawn by: **Date:** 13-04-2020

sheet Nr.

Michał Dybicz 9/13

Type

FT-270 LED - rear multifunction lamp for trailers EXT03

light source

LED chip SMD chip mounted
AR - 6 LED's - white light color
F1 - 8 LED's - red light color
R1 - 8 LED's - red light color
S1 - 8 LED's - red light color
2a - 6 LED's - amber light color
L - 3 LED's - white light color

sheet description

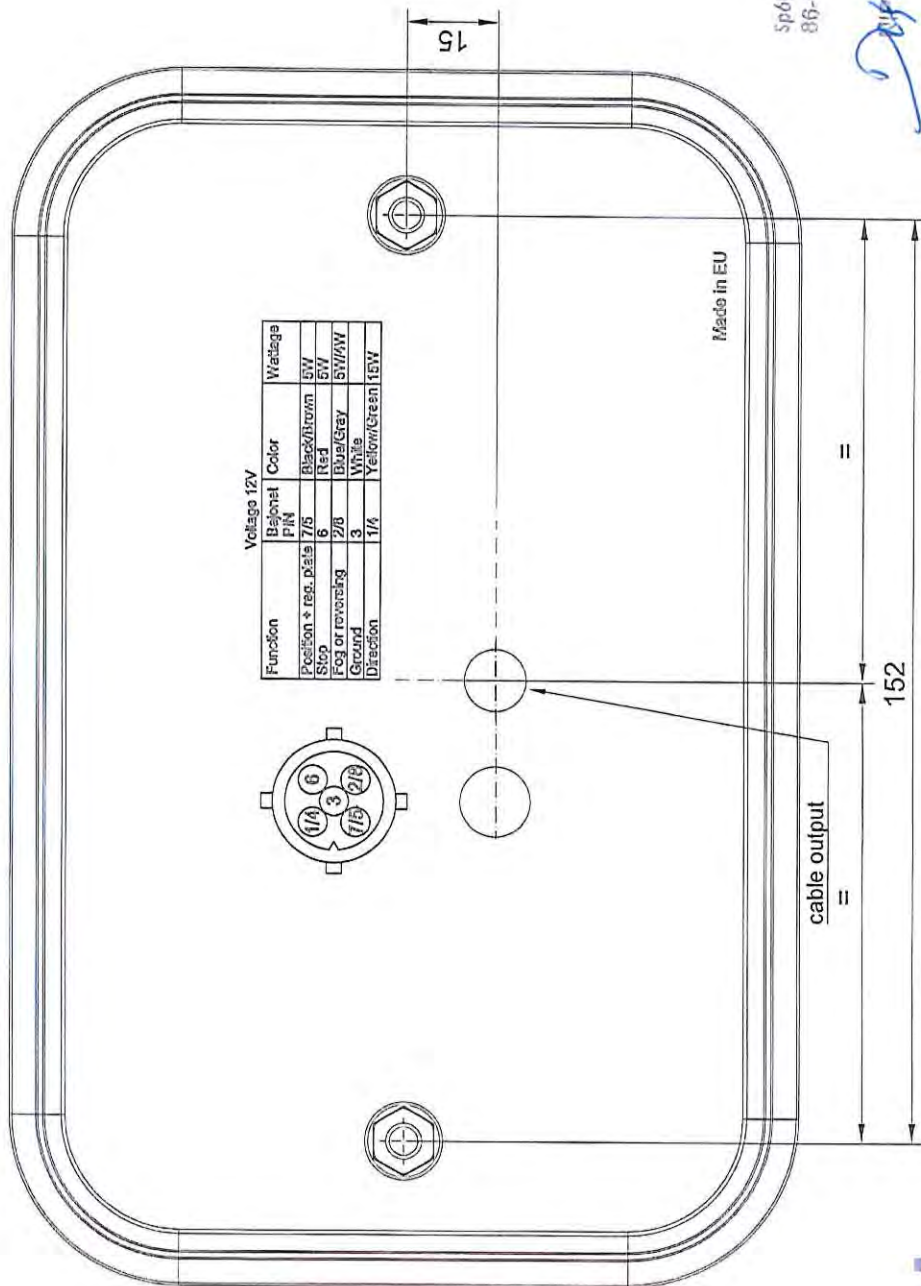
electrical parameters marking on housing

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- coil motor AR PMMA transparent clear
- coil motor F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- ILLA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

right lamp housing view cable version



IDIADA PC21050056

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Drawn by: **Date:**

13-04-2020

sheet Nr.

10/13

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

light source

LED chip SMD chip mounted
AR - 6 LED's - white light color
F1 - 8 LED's - red light color
R1 - 8 LED's - red light color
S1 - 8 LED's - red light color
2a - 6 LED's - amber light color
L - 3 LED's - white light color

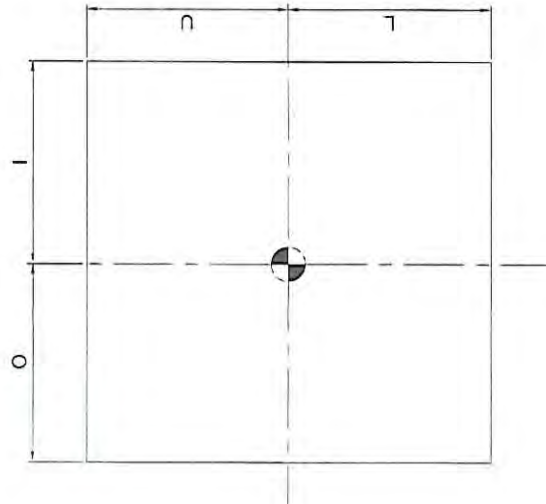
sheet description

lighting surface

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- lens PMMA transparent red
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin



lighting surface

function	U _(upper limit) [mm]	L _(lower limit) [mm]	O _(center limit) [mm]	I _(inner limit) [mm]
reversing AR	23	23	25	25
rear fog F1	23	23	25	25
rear position R1	7,5	7,5	66	66
stop S1	44	44	18,5	18,5
direction indicator 2a	33	33	36	36

Determining the lower , upper and lateral limits of the illumination surface of the lamp device.

According to European Directive 91/663/EEC , Annex I "Installation of lighting and light-signalling devices" clause 1.9.2.

According to ECE regulation 48/06 "Installation of light and light-signalling devices" clause 2.10.3.2.

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Drawn by: **Date:** 13-04-2020 **sheet Nr.** 11/13

Michał Dybicz

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

Material used in manufacturing :

- lampshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator F1 PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

sheet description

variant tradenames (sheet 1/2)

This drawing is a part of the application for approval

light source

- LED COF 5PIN chip coated
- AR - 6 LED's - white light color
- F1 - 8 LED's - red light color
- R1 - 8 LED's - red light color
- S1 - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color

ITEM

FT-270 L NT LED COF	FT-270 L NT LED COF Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 1 m cable.
FT-270 L NT LED COF Mxx	FT-270 L NT LED COF Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, Mxx cable.
FT-270 L NT LED COF BAJONET 5PIN	FT-270 L NT LED COF BAJONET 5PIN Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 5 PIN Bayonet connector.
FT-270 L NT LED O COF BAJONET 5PIN	FT-270 L NT LED O COF BAJONET 5PIN Universal LED left rear lamp with reflective triangle, charged, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 5 PIN Bayonet connector.
FT-270 L NT LED PM	FT-270 L NT LED PM Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 1 m cable.
FT-270 L NT LED PM Mxx	FT-270 L NT LED PM Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, Mxx cable.
FT-270 L NT LED PM BAJONET 5PIN	FT-270 L NT LED PM BAJONET 5PIN Universal LED left rear lamp with reflective triangle, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 5 PIN Bayonet connector.
FT-270 L NT LED O PM BAJONET 5PIN	FT-270 L NT LED O PM BAJONET 5PIN Universal LED left rear lamp with reflective triangle, charged, 12V, 5-functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 5 PIN Bayonet connector.
FT-270 L TB LED COF	FT-270 L TB LED COF Universal LED left rear lamp with reflective triangle 12V, 6-functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 1 m cable.
FT-270 L TB LED COF Mxx	FT-270 L TB LED COF Universal LED left rear lamp with reflective triangle 12V, 6-functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, Mxx cable.
FT-270 L TB LED COF BAJONET 5PIN	FT-270 L TB LED COF BAJONET 5PIN Universal LED left rear lamp with reflective triangle 12V, 6-functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 5 PIN Bayonet connector.
FT-270 L TB LED O COF BAJONET 5PIN	FT-270 L TB LED O COF BAJONET 5PIN Universal LED left rear lamp with reflective triangle, charged, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 5 PIN Bayonet connector.
FT-270 L TB LED PM	FT-270 L TB LED PM Universal LED left rear lamp with reflective triangle, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 1 m cable.
FT-270 L TB LED PM Mxx	FT-270 L TB LED PM Universal LED left rear lamp with reflective triangle, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, Mxx cable.
FT-270 L TB LED PM BAJONET 5PIN	FT-270 L TB LED PM BAJONET 5PIN Universal LED left rear lamp with reflective triangle, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 5 PIN Bayonet connector.
FT-270 L TB LED O PM BAJONET 5PIN	FT-270 L TB LED O PM BAJONET 5PIN Universal LED left rear lamp with reflective triangle, charged, 12V, 6-functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 5 PIN Bayonet connector.

Where x is number for 0 till 9

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Drawn by: **Date:** 13-04-2020 **sheet Nr.** 12/13

Michał Dybicz

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

Material used in manufacturing :

- lensshade PC transparent clear
- colimator AR PMMA transparent clear
- colimator FI PMMA transparent red
- housing ABS black
- frame ABS black
- lens 2a PMMA transparent amber
- IIIA reflector and R1 lens PMMA transparent red
- regulation plate reflector ABS black vacuum metalized
- PCB FR4
- AR - 6 LED's - white light color
- FI - 8 LED's - red light color
- RI - 8 LED's - red light color
- SI - 8 LED's - red light color
- 2a - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

sheet description

variant tradenames (sheet 2/2)

This drawing is a part of the application for approval

light source

LED chip SMD chip mounted
AR - 6 LED's - white light color
FI - 8 LED's - red light color
RI - 8 LED's - red light color
SI - 8 LED's - red light color
2a - 6 LED's - amber light color
L - 3 LED's - white light color

FT 270 P NT LED COF	FT 270 P NT LED COF Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 1 m cable.
FT 270 P NT LED COF Mxx	FT 270 P NT LED COF Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, Mxx cable.
FT 270 P NT LED COF BA/ONET 5PIN	FT 270 P NT LED COF BA/ONET 5PIN Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 5 PIN Bayonet connector.
FT 270 P NT LED O COF BA/ONET 5PIN	FT 270 P NT LED O COF BA/ONET 5PIN Universal LED right rear lamp with reflective triangle, charged, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ REVERSING without number plate light, 5 PIN Bayonet connector.
FT 270 P NT LED PAJ	FT 270 P NT LED PMU Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 1 m cable.
FT 270 P NT LED PM Mxx	FT 270 P NT LED PM Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, Mxx cable.
FT 270 P NT LED PM BA/ONET 5PIN	FT 270 P NT LED PM BA/ONET 5PIN Universal LED right rear lamp with reflective triangle, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 5 PIN Bayonet connector.
FT 270 P NT LED O PM BA/ONET 5PIN	FT 270 P NT LED O PM BA/ONET 5PIN Universal LED right rear lamp with reflective triangle, charged, 12V, 5 functional, STOP/ POSITION/ INDICATOR/ FOG without number plate light, 5 PIN Bayonet connector.
FT 270 P TB LED COF	FT 270 P TB LED COF Universal LED right rear lamp with reflective triangle 12V, 6 functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 1 m cable.
FT 270 P TB LED COF Mxx	FT 270 P TB LED COF Universal LED right rear lamp with reflective triangle 12V, 6 functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, Mxx cable.
FT 270 P TB LED COF BA/ONET 5PIN	FT 270 P TB LED COF BA/ONET 5PIN Universal LED right rear lamp with reflective triangle 12V, 6 functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 5 PIN Bayonet connector.
FT 270 P TB LED O COF BA/ONET 5PIN	FT 270 P TB LED O COF BA/ONET 5PIN Universal LED right rear lamp with reflective triangle, charged, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ REVERSING with side number plate light, 5 PIN Bayonet connector.
FT 270 P TB LED PM	FT 270 P NT LED PM Universal LED right rear lamp with reflective triangle, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 1 m cable.
FT 270 P TB LED PM Mxx	FT 270 P NT LED PM Universal LED right rear lamp with reflective triangle, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, Mxx cable.
FT 270 P TB LED PM BA/ONET 5PIN	FT 270 P NT LED PM BA/ONET 5PIN Universal LED right rear lamp with reflective triangle, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 5 PIN Bayonet connector.
FT 270 P TB LED O PM BA/ONET 5PIN	FT 270 P NT LED O PM BA/ONET 5PIN Universal LED right rear lamp with reflective triangle, charged, 12V, 6 functional, STOP/ POSITION/ INDICATOR/ FOG with side number plate light, 5 PIN Bayonet connector.

Where x is number for 0 till 9

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Drawn by: Date: sheet Nr.

Michał Dybicz 13-04-2020 13/13

Type

FT- 270 LED - rear multifunction lamp for trailers EXT03

light source
LED chip SMD mounted
AR - 8 LED's - white light color
FI - 8 LED's - red light color
RI - 8 LED's - red light color
SI - 8 LED's - red light color
Za - 6 LED's - amber light color
L - 3 LED's - white light color

sheet description

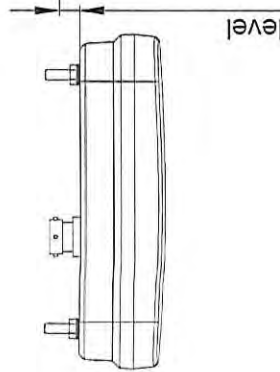
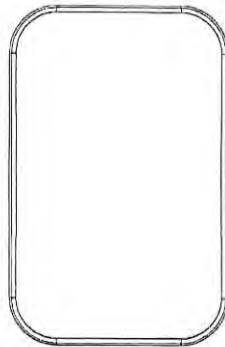
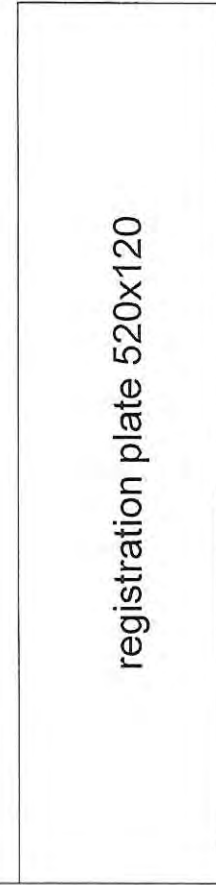
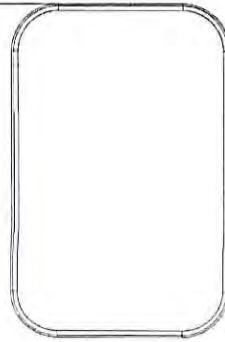
positioning of registration plate light

This drawing is a part of the application for approval

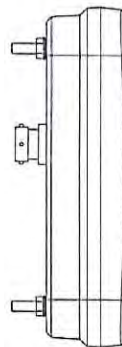
Material used in manufacturing :

- lampshade PC transparent clear
- collimator AR PMMA transparent clear
- collimator FI PMMA transparent red
- housing ABS black
- frame ABS black
- lens Za PMMA transparent amber
- lens AR reflector and RI lens PMMA transparent red
- registration plate reflector ABS black vacuum metallized
- PCB FR4
- AR - 6 LED's - white light color
- FI - 8 LED's - red light color
- RI - 8 LED's - red light color
- SI - 8 LED's - red light color
- Za - 6 LED's - amber light color
- L - 3 LED's - white light color
- potting compound epoxy resin

distance



level



lamp level [mm]	distance [mm]
4	26
8	50
14	100
28	200

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