



MINISTERIO
DE INDUSTRIA, COMERCIO Y
TURISMO

DIRECCIÓN GENERAL DE INDUSTRIA Y
DE LA PEQUEÑA Y MEDIANA EMPRESA

SUBDIRECCIÓN GENERAL DE
CALIDAD Y SEGURIDAD INDUSTRIAL

E9*23R00/22*23172*00

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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APPROVAL WITHDRAWN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 luz de marcha atrás en aplicación del Reglamento N°23.
of a type of reversing lamp pursuant to Regulation No.23.

N° de homologación / Approval No.: E9*23R00/22*23172*00

Extensión N° / Extension No.: ---

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-600 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: 11/03/2020
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: 27/03/2020
8. Número del informe emitido por dicho servicio / Number of report issued by that service: PC19070360

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



E9*23R00/22*23172*00

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9. Breve descripción / *Concise description:*

- Número, categoría(s) y tipo de la(s) fuente(s) luminosa(s) / *Number, category and kind of light source(s):*
8 x LED's
- Voltaje y potencia / *Voltage and wattage:* 13.5 V, 2.5 W
- Aplicación de una guía de control electrónica / *Application of an electronic light source control gear:* ---
 - a) formando parte de la luz / *being part of the lamp:* sí / yes - no / no ⁽¹⁾
 - b) no formando parte de la luz / *being not part of the lamp:* sí / yes - no / no ⁽¹⁾
- Tensión(es) de entrada suministrada(s) por la guía de control electrónica de la(s) fuente(s) luminosa(s) / *Input voltage(s) supplied by an electronic light source control gear:* ---
- Fabricante de la guía de control electrónica 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 manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body):* ---
- Módulo de fuente de luz / *Light source module:* ~~sí~~/yes - no / no ⁽¹⁾
- Código de identificación específico del módulo de fuente de luz / *Light source module specific identification code:* ---
- Condiciones geométricas de instalación y variaciones relacionadas, en su caso / *Geometrical conditions of installation and relating variations, if any:* ---
- Para un tipo de luz de maniobra en aplicación del Reglamento N°23 párrafo 6.2.2. / *For a type of manoeuvring lamp pursuant to Regulation No. 23 paragraph 6.2.2.:*
Altura máxima de montaje / *Maximum mounting:* ---
- La luz es sólo para uso en un vehículo equipado con un testigo que indique el fallo / *The lamp is only for use on a vehicle fitted with a tell-tale indicating failure:* ~~sí~~/yes - no / no ⁽¹⁾

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E9*23R00/22*23172*00

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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. En el caso de una luz de marcha atrás, este dispositivo sólo puede instalarse en un vehículo, por pares: *sí / no* ⁽¹⁾
/ *In the case of a reversing lamp, this device shall be installed on a vehicles only as part of a pair of devices:*
yes / no ⁽¹⁾
12. Motivos de la extensión (en su caso) / *Reason(s) of extension (if applicable)*: ---
13. Se concede/~~deniega~~/~~extiende~~/~~retira~~ la homologación ⁽¹⁾ / *Approval granted/~~refused~~/~~extended~~/~~withdrawn~~* ⁽¹⁾
14. Lugar / *Place*: Madrid
15. Fecha / *Date*: Ver firma electrónica / *See electronic signature*
16. 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
17. 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*

Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp.k.
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Drawn by: Michał Dybicz

Date: 18-03-2020

sheet Nr. 1/7

Type

FT- 600 LED - rear LED multifunction lamp

light source

LIGHT SOURCE : LED CHIP SMD chip mounted
see table page 2

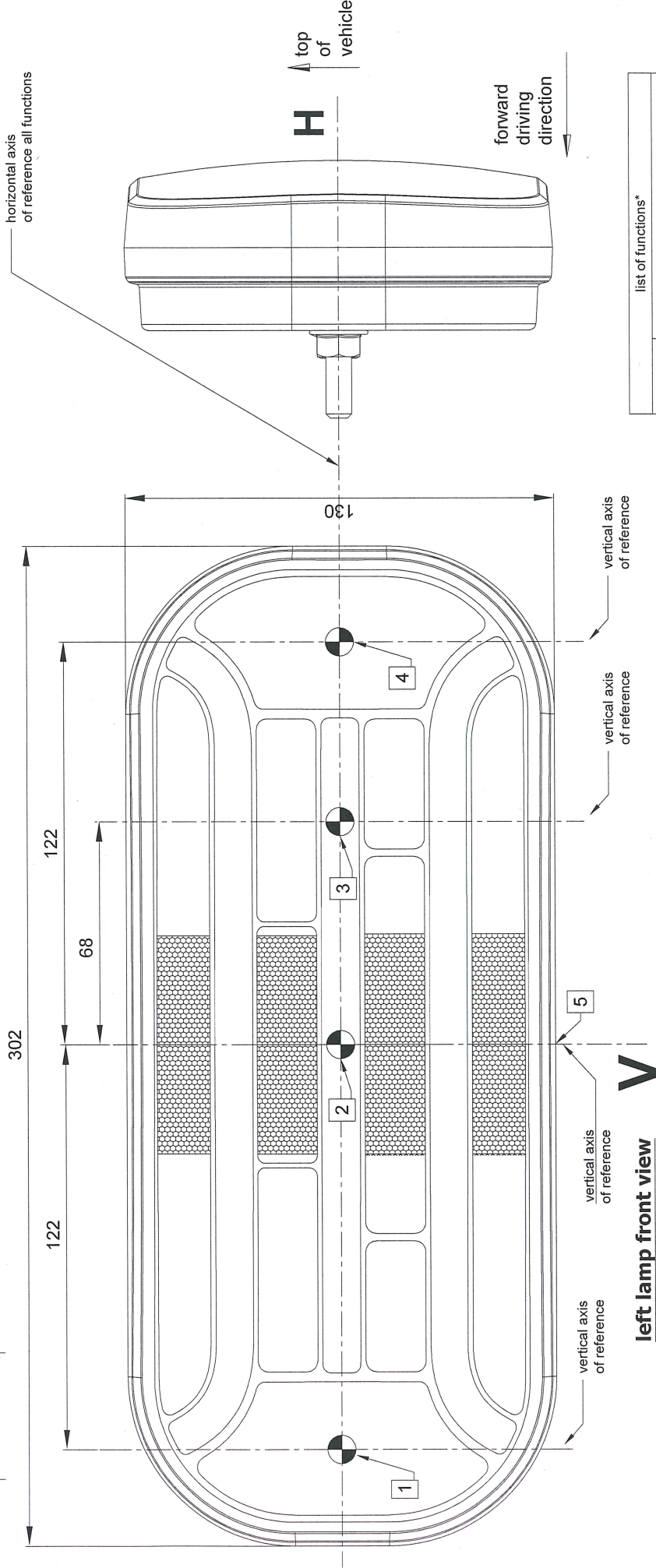
sheet description

general drawing / lamp functions / assembly on vehicle

This drawing is a part of the application for approval

Material used in manufacturing :

- lampshade PC transparent clear
- collimator / filter insert R1 PC red transparent
- collimator / filter insert S1 PC clear transparent
- collimator / filter insert 2a PMMA transparent amber
- housing ABS black
- frame ABS black
- registration plate reflector ABS white
- PCB FR4
- potting compound epoxy resin



point of reference	function	list of functions*
1	rear fog F1	rear fog F1
2	rear direction indicator 2a - sequential	rear direction indicator 2a - sequential
3	retro reflecting device cat IA	retro reflecting device cat IA
4	rear position light R1	rear position light R1
5	stop light S1 (full function)	stop light S1 (full function)
	stop light S1 (reduced stop variant)	stop light S1 (reduced stop variant)
	reversing AR	reversing AR
	registration plate light	registration plate light

lamp includes REDUCED STOP variant !

FRISTOM
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www.fristom.com.pl
NIP 5542926937 REGON 341640907

IBIADA MICHAŁ DYBICZ
PC19070360

Manufacturer

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Drawn by: Michał Dybicz
Date: 18-03-2020
sheet Nr. 2/7

Type

FT- 600 LED - rear LED multifunction lamp

Material used in manufacturing :

- lampshade PC transparent clear
- collimator / filter insert R1 PC red transparent
- collimator / filter insert S1 PC clear transparent
- collimator / filter insert 2a PMMA transparent amber
- housing ABS black
- frame ABS black
- registration plate reflector ABS white
- PCB FR4
- potting compound epoxy resin

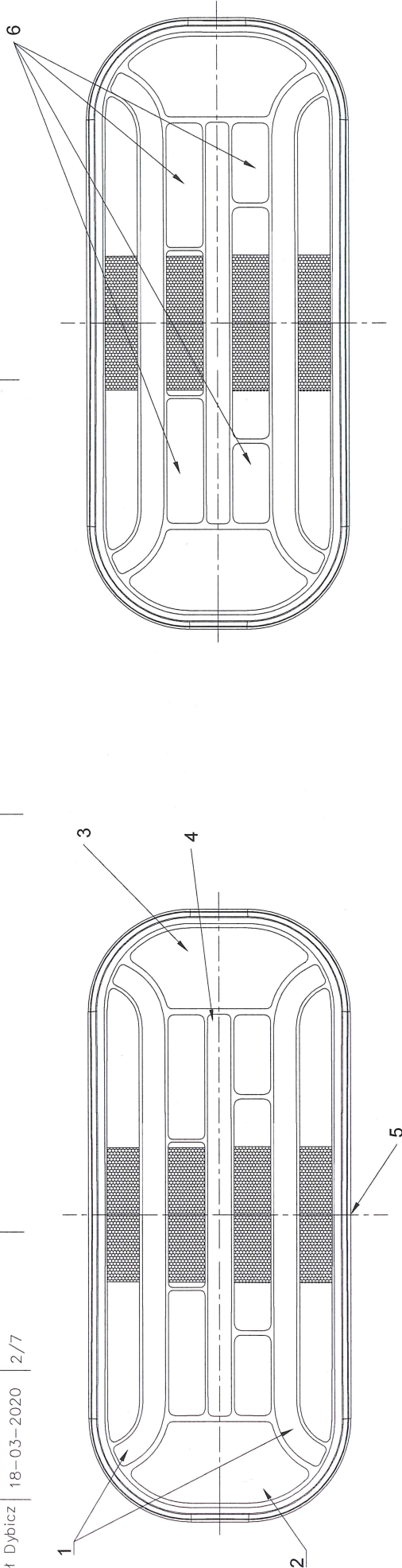
light source

LIGHT SOURCE : LED CHIP SMD chip mounted
see table page 2

sheet description

LED sources and connections

This drawing is a part of the application for approval



left lamp front view

functions and LED connections				
1	R1	12 / 24 V - 2 / 4 W	4 LED` s serial connected in 10 parallel sections	40 Led` s red light color
	R1+L	12 / 24 V - 2,5 / 5 W		
2	F1	12 / 24 V - 2 / 4 W	4 LED` s serial connected in 2 parallel sections	8 Led` s red light color
3	AR	12 / 24 V - 2,5 / 6 W	3 LED` s serial connected in 2 parallel sections + 2 LED` s serial connected in 1 section	8 LED` s white light color
4	2a	12 / 24 V - 10 / 20 W	3 LED` s serial connected in 6 parallel sections	18 LED` s amber light color
5	L	12 / 24 V - 0,5 / 1 W	3 LED` s serial connected in 2 parallel sections	6 LED` s white light color
6	S1	12 / 24 V - 4 / 8 W	4 LED` s serial connected in 4 parallel sections	16 Led` s red light color
7	S1 reduced	12 / 24 V - 2 / 4 W	4 LED` s serial connected in 2 parallel sections	8 Led` s red light color

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In case of failure of one light source of the rear direction indicator a signal of activation of the tail light is

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Drawn by: Michał Dybicz
Date: 18-03-2020
sheet Nr. 3/7

Type

FT- 600 LED - rear LED multifunction lamp

Material used in manufacturing :

- lampshade PC transparent clear
- colimator / filter insert R1 PC red transparent
- colimator / filter insert S1 PC clear transparent
- colimator / filter insert 2a PMMA transparent amber
- housing ABS black
- frame ABS black
- registration plate reflector ABS white
- PCB FR4
- potting compound epoxy resin

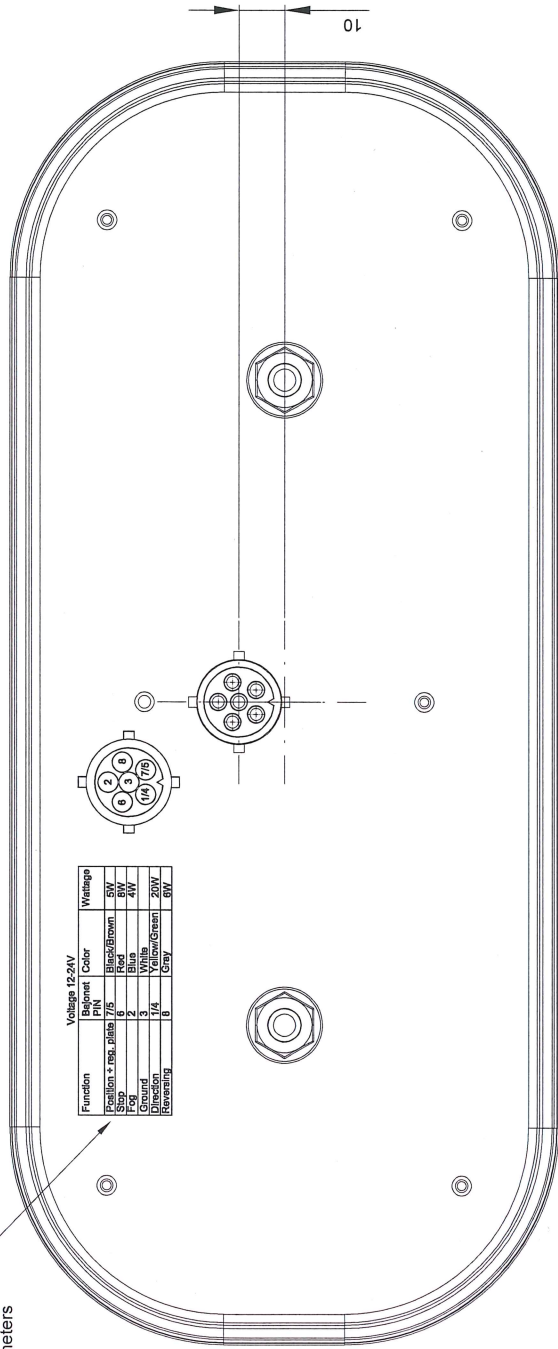
light source

LIGHT SOURCE : LED CHIP SMD chip mounted
see table page 2

sheet description

general drawing lamp bottom/rear view / electrical parameter engravings
This drawing is a part of the application for approval

marking of
electrical parameters



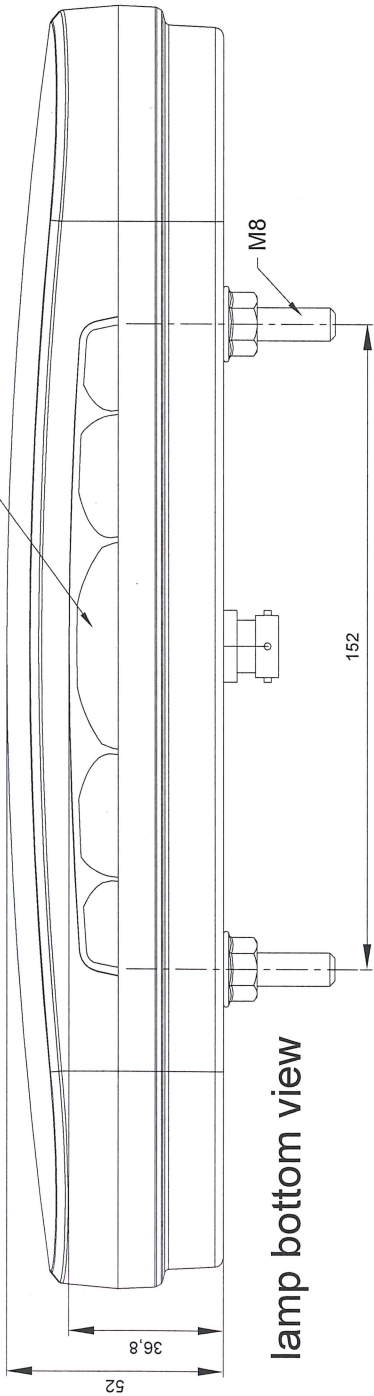
Voltage 12-24V			
Function	Bajonet PIN	Color	Wattage
Position + req. plate	7/5	Black/Brown	5W
Stop	6	Red	8W
Fog	2	Blue	4W
Ground	3	White	
Direction	1/4	Yellow/Green	20W
Reversing	8	Gray	6W

parameter table

Voltage 12-24V			
Function	Bajonet PIN	Color	Wattage
Position + req. plate	7/5	Black/Brown	5W
Stop	6	Red	8W
Fog	2	Blue	4W
Ground	3	White	
Direction	1/4	Yellow/Green	20W
Reversing	8	Gray	6W

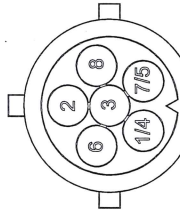
lamp rear view - bajonet version

Registration plate light L



lamp bottom view

pin settings



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Drawn by: **Date:**

Michał Dybicz 18-03-2020

sheet Nr.

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Type

FT- 600 LED - rear LED multifunction lamp

light source

LIGHT SOURCE : LED CHIP SMD chip mounted
see table page 2

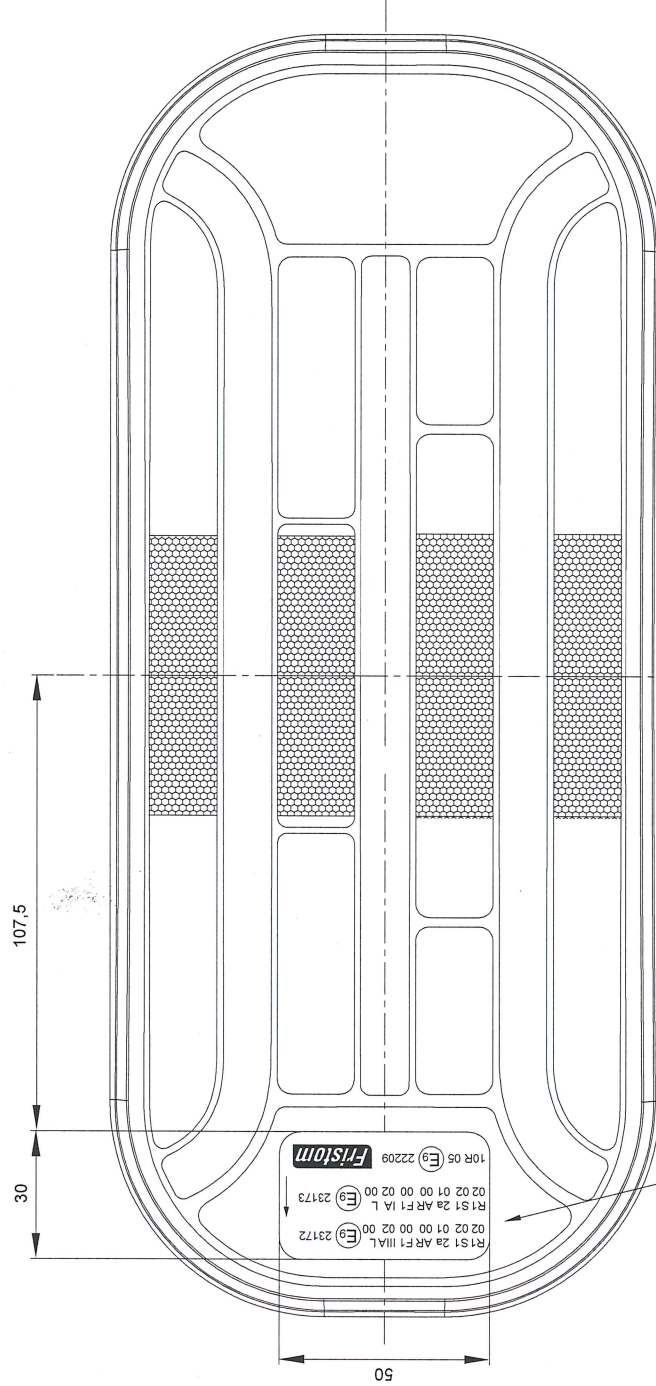
sheet description

general drawing / lamp functions / assembly on vehicle

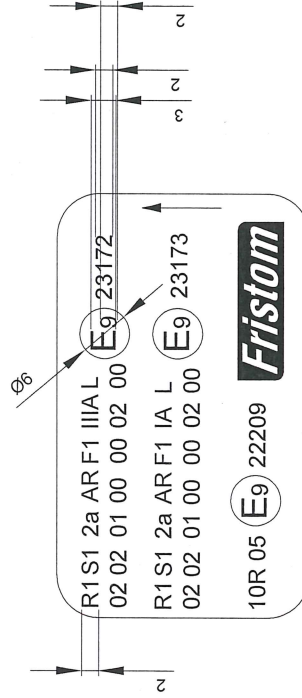
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- colimator / filter insert R1 PC red transparent
- colimator / filter insert S1 PC clear transparent
- colimator / filter insert 2a PMMA transparent amber
- housing ABS black
- frame ABS black
- registration plate reflector ABS white
- PCB FR4
- potting compound epoxy resin



approval markings and trademark on lampshade



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Drawn by: Michał Dybicz

Date:

18-03-2020

sheet Nr.

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Type

FT- 600 LED - rear LED multifunction lamp

light source

LIGHT SOURCE : LED CHIP SMD chip mounted
see table page 2

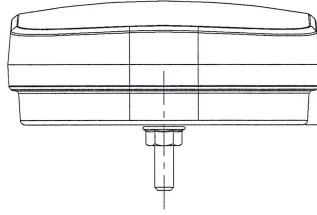
sheet description

registration plate light and positioning

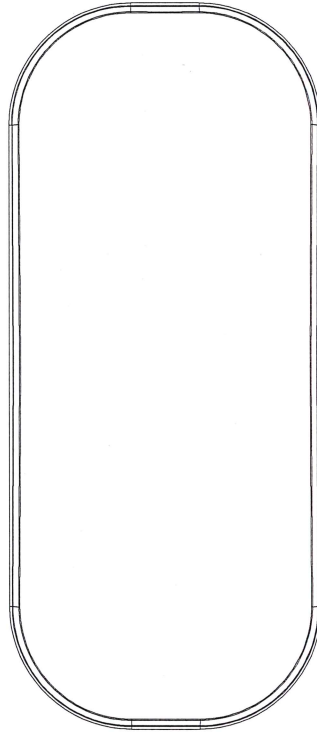
This drawing is a part of the application for approval

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- PCB FR4
- potting compound epoxy resin



10



registration plate 520x120

10

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Drawn by: Michał Dybicz
Date: 18-03-2020
sheet Nr. 6/7

Type

FT- 600 LED - rear LED multifunction lamp

light source

LIGHT SOURCE : LED CHIP SMD chip mounted
see table page 2

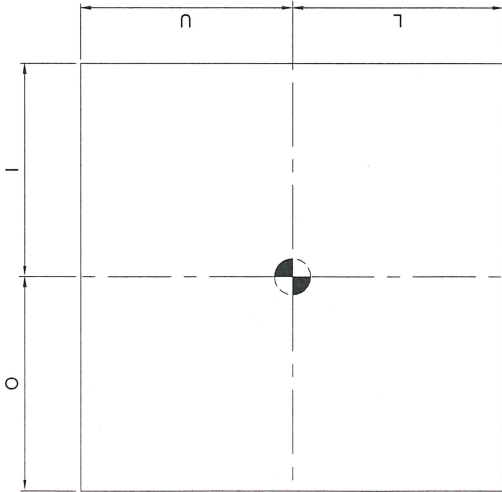
sheet description

lighting surface

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- colimator / filter insert 2a PMMA transparent amber
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- frame ABS black
- registration plate reflector ABS white
- PCB FR4
- potting compound epoxy resin

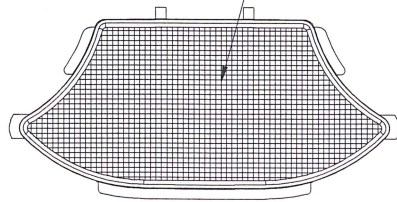


lighting surface				
function	U _{upper} (mm)	L _{lower} (mm)	O _{center} (mm)	I _{inner} (mm)
stop S1 Full	25	25	98	98
stop S1 reduced	25	25	31	31
direction indicator 2a	5	5	98	98
fog F1	42	42	18	18
reversing AR	42	42	18	18
position R1	52	52	124	124

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.



lighting area of rear fog light function
~23 cm²

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**Drawn by:**

Michał Dybicz

Date:

18-03-2020

sheet Nr.

7/7

Type**FT- 600 LED - rear LED multifunction lamp****Material used in manufacturing :**

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- collimator / filter insert R1 PC red transparent
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- frame ABS black
- registration plate reflector ABS white
- PCB FR4
- potting compound epoxy resin

sheet description

variant tradenames and descriptions

This drawing is a part of the application for approval

light sourceLIGHT SOURCE : LED CHIP SMD chip mounted
see table page 2

FT-610 L LED AMP	FT-610-15 LED universal LED lamp with triangular reflex reflector, 12-36V, 6-functions, left without registration plate light, with connector AMP 7PIN.
FT-610 LT LED AMP	FT-610-135 LED universal LED lamp with triangular reflex reflector, 12-36V, 7-functions, left with registration plate light, with connector AMP 7PIN.
FT-610 P LED AMP	FT-610-25 LED universal LED lamp with triangular reflex reflector, 12-36V, 6-functions, right without registration plate light, with connector AMP 7PIN.
FT-610 PT LED AMP	FT-610-235 LED universal LED lamp with triangular reflex reflector, 12-36V, 7-functions, right with registration plate light, with connector AMP 7PIN.
FT-610 L LED BAJ 6PIN	FT-610-16 LED universal LED lamp with triangular reflex reflector, 12-36V, 6-functions, left without registration plate light, with connectorBAJONET 6PIN.
FT-610 LT LED BAJ 6PIN	FT-610-136 LED universal LED lamp with triangular reflex reflector, 12-36V, 7-functions, left with registration plate light, with connectorBAJONET 6PIN.
FT-610 P LED BAJ 6PIN	FT-610-26 LED universal LED lamp with triangular reflex reflector, 12-36V, 6-functions, right without registration plate light, with connectorBAJONET 6PIN.
FT-610 PT LED BAJ 6PIN	FT-610-236 LED universal LED lamp with triangular reflex reflector, 12-36V, 7-functions, right with registration plate light, with connectorBAJONET 6PIN.
FT-610 L LED	FT-610-14 LED universal LED lamp with triangular reflex reflector, 12-36V, 6-functions, left without registration plate light, 2m cable
FT-610 LT LED	FT-610-134 LED universal LED lamp with triangular reflex reflector, 12-36V, 7-functions, left with registration plate light, 2m cable
FT-610 P LED	FT-610-24 universal LED lamp with triangular reflex reflector, 12-36V, 6-functions, right without registration plate light, 2m cable
FT-610 PT LED	FT-610-234 LED universal LED lamp with triangular reflex reflector, 12-36V, 7-functions, right with registration plate light, 2m cable

FRISTOM

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