



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*22501*01

Página / Page 1/3



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	APPROVAL WITHDRAWN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.

Nº de homologación / *Approval No.*: E9*23R00/22*22501*01

Extensión N° / Extension No.: 01

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-500 LED
3. Nombre y dirección del fabricante / *Manufacturer's name and address*:
FRISTOM SPÓŁKA Z OGRANICZONA
ODPOWIEDZIALNOSCIA SPÓŁKA
KOMANDYTOWA
UL. PRZEMYSŁOWA 5, 86-014
85416 SICIENKO
SICIENKO (POLONIA)
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*: 30/11/2018
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*: 30/11/2018
8. Número del informe emitido por dicho servicio / *Number of report issued by that service*: PC18080039,
PC18110355

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

FIRMADO por : JOSE MANUEL PRIETO BARRIO, SUBDIRECTOR / SUBDIRECTORA GENERAL de S.G. DE CALIDAD Y SEGURIDAD INDUSTRIAL. A fecha : 04/12/2018 17:54:24
Este documento es accesible desde www.minetad.gob.es/arce con Código de Consulta y Verificación 5695263-16286002FIHXLKFS8HX.
El documento consta de un total de 3 folios. Folio 2 de 3.



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*22501*01

Página / Page 2/3



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)*: 22xLEDs
- Voltaje y potencia / *Voltage and wattage*: 12V 1.2W/ 24V 1.2W
- 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*: MD-E9-22501/2
- 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⁾

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

FIRMADO por : JOSE MANUEL PRIETO BARRIO, SUBDIRECTOR / SUBDIRECTORA GENERAL de S.G. DE CALIDAD Y SEGURIDAD INDUSTRIAL. A fecha : 04/12/2018 17:54:24
Este documento es accesible desde www.minetad.gob.es/arce con Código de Consulta y Verificación 5695263-16286002FIHXLKFS8HX.
El documento consta de un total de 3 folios. Folio 3 de 3.



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*22501*01

Página / Page 3/3



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)*: Inclusión de funciones R.03 y R.04 en el tipo FT-500 LED. / *New type approvals R.03 and R.04 functions included on type FT-500 LED*
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 / *report*
 - Documentación suministrada por el fabricante / *Documentation supplied by the manufacturer*

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

INFORMATION FOLDER :

Approval extension EXT I

DATE: 28.11.2018

Specification data

Type		FT-500 LED						
Trade name or mark		Fristom						
Function		retro-reflecting devices	rear direction indicators	tail lamps	stop lamps	reversing lamps	rear fog lamps	Registrati on plate lamp
Color		Red	Amber	Red	Red	White	Red	white
Rated	Voltage	NA	12/24 V	12/24 V	12/24 V	12/24 V	12/24 V	12/24V
	Wattage	NA	4,1W/4,1W	1,5/3 W	4,1W/4,1W	1,2W/1,2W	4,1W/4,1W	1,5 / 3W
Applicable Regulation		R3 Class I	R6 Cat. 2a	R7	R7	R23	R38	R4
Location of marking	Filament Lamp category	NA	LED	LED	LED	LED	LED	LED
		NA	Marked on module	Marked on module	Marked on module	Marked on module	Marked on module	Marked on module
	Trade mark	Fristom						
		Marked on reflex reflector under lampshade						

2. Construction and material

Construction	Material	Remarks	
Lampshade LED module AR,2a,F1,S1	PC	clear transparent	
Cover LED module AR,2a,F1,S1	PC	white	
Lampshade red	PMMA	Red transparent	
Lampshade white	PMMA	Transparent clear	
Reflector	PC white vacuum aluminium coated	silver	
Housing	ABS	black	
Reflex reflector	PMMA	White transparent	
Reflex reflector bottom	PC	white	
Tail light lampshade	PC	Milky diffusive	
Tail light bottom	PC	white	

FRISTOM
 spółka z ograniczoną odpowiedzialnością
 86-014 Sienice, ul. Przemysłowa 1
 NIP: 5542926937, REGON 343167042
 reprezentowana przez FRISTOM sp. z o.o.

PC18110355

3. Name and address of manufacturer :

FRISTOM Spółka z ograniczoną odpowiedzialnością Spółka komandytowa

86-014 Sicienko / Polska

ul. Przemysłowa 5

IDUE PL5542926937, KRS: 0000529238

Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41

4. Name and address of applicant:

FRISTOM Spółka z ograniczoną odpowiedzialnością Spółka komandytowa

86-014 Sicienko / Polska

ul. Przemysłowa 5

IDUE PL5542926937, KRS: 0000529238

Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41

5. Reason of extension :

New type approvals R3 and R4 functions included on type FT-500 LED.

Michał Dybicz Sicienko / POLAND 28.11.2018

FRISTOM
spółka z ograniczoną odpowiedzialnością
86-014 Sicienko, ul. Przemysłowa 5
NIP: 5542926937, REGON: 141111111
reprezentowana przez FRISTOM

Manufacturer

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



Draw by:

Michał Dybicz

Date:

28-11-2018

sheet Nr.

1/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED

showed on drawing

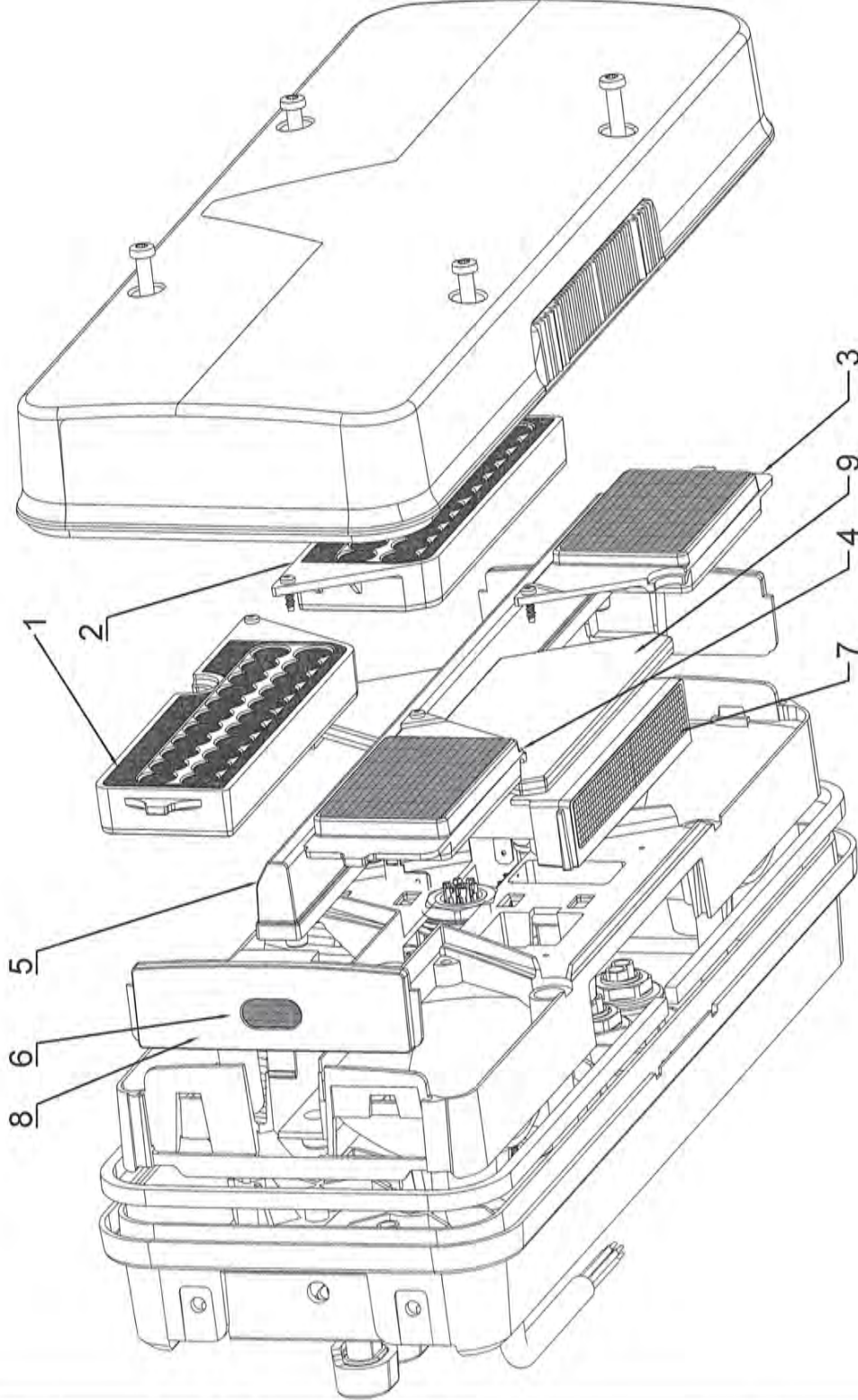
sheet description

lamp overview

This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white



FRISTOM
spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Sicienko, ul. Przemysłowa 5
NIP: 5542926937, REGON 341640597
zarejestrowana przez FRISTOM sp. z o.o.

list of functions	
1	rear direction indicator 2A LED MODULE
2	reversing light AR LED MODULE
3	rear fog light LED MODULE
4	stop light LED MODULE
5	rear position light (LED)
6	sidemarker red (LED)
7	registration plate light LED MODULE
8	side reflex reflector IA
9	side reflex reflector IIA

FT-500 LED LH isometric explosion view

Manufacturer

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



Draw by: Michal Dybicz

Date: 28-11-2018

sheet Nr. 2/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED showed on drawing

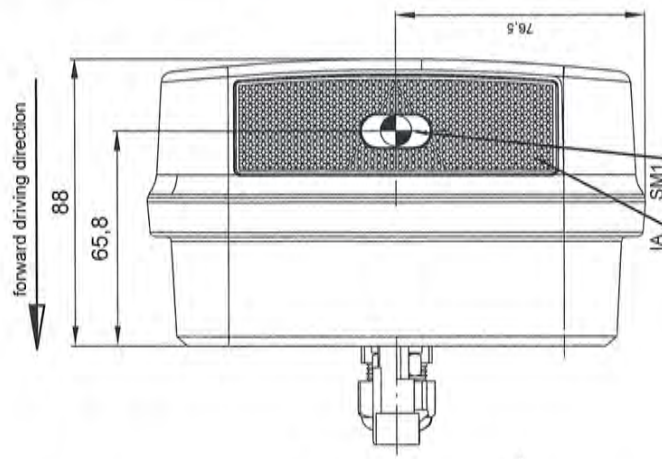
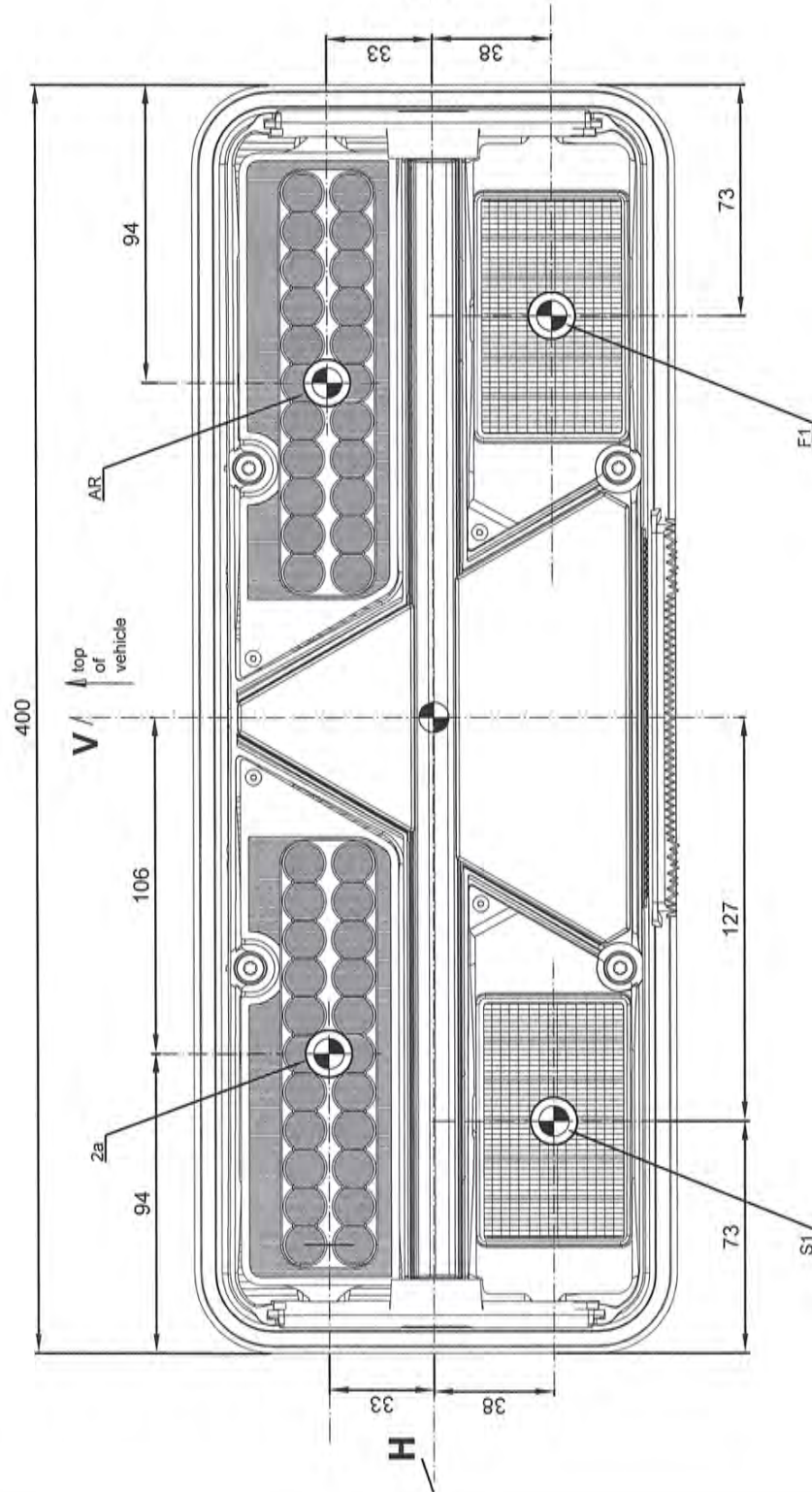
sheet description

general drawing / lamp functions / assembly on vehicle

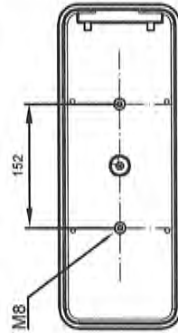
This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a,AR,F1,S1 lampshade/lens -PC clear transparent
- LED modules 2a,AR,F1,S1 lampshade cover -PC white



rear view carriage fixing screws



FRISTOM
spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Sicienko, ul. Przemysłowa 5
NIP: 5542926937, REGON 341640907
reprezentowana przez FRISTOM sp. z o.o.

functions shown : 2a,SM1,IA,IIIA,AR,F1,S1,R1

LEFT HAND VERSION DRAWN
ONLY HORIZONTAL-ASSEMBLY ON TRAILER
IBIADA PC18110355

Manufacturer

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



Draw by: Michal Dypicz

Date: 28-11-2018

sheet Nr.

3/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

sheet description

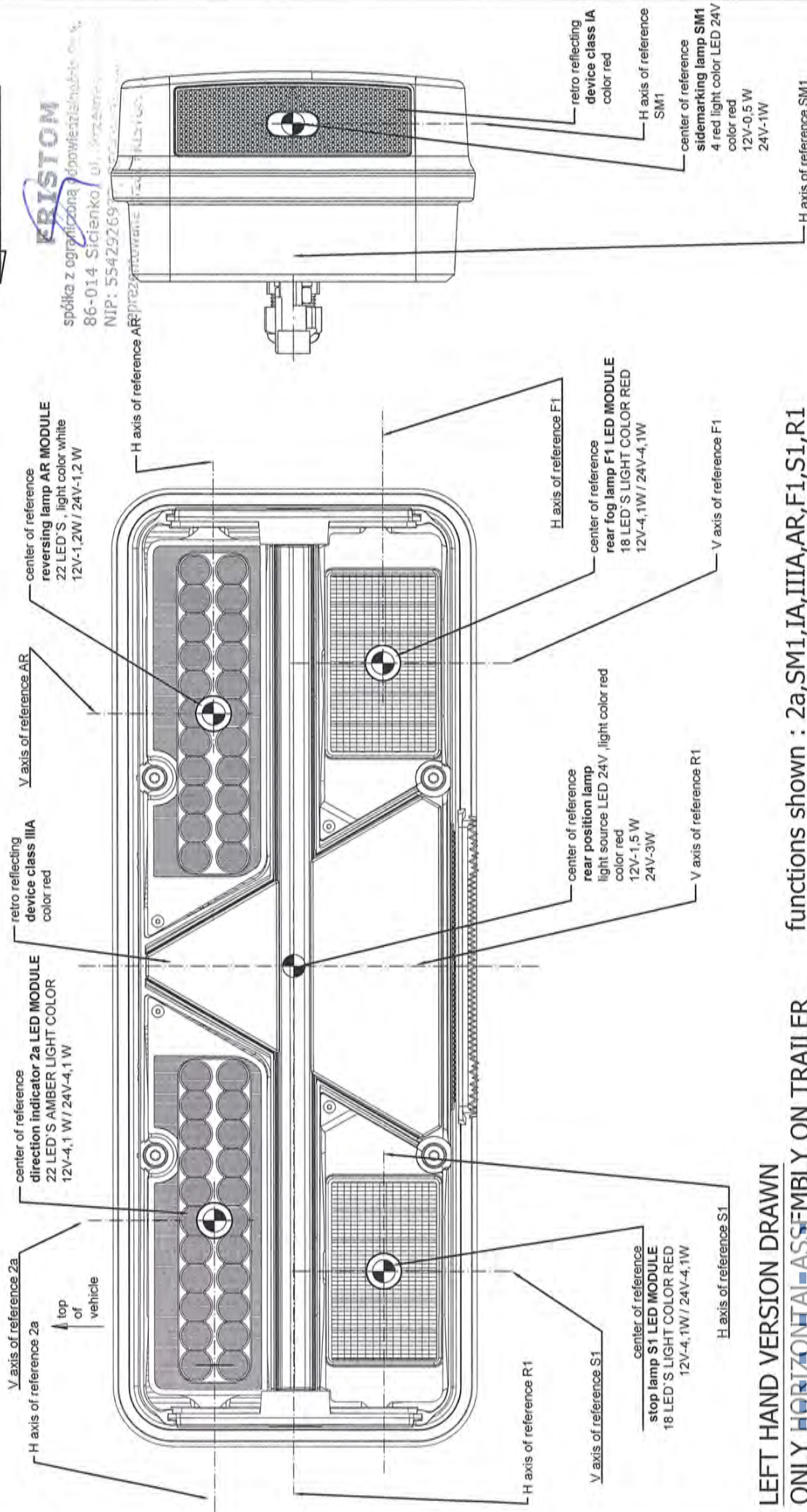
lamp functions and reference points

This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white

forward driving direction



LEFT HAND VERSION DRAWN

ONLY HORIZONTAL-ASSEMBLY ON TRAILER

IDIADA PC18110355

functions shown : 2a,SM1,IA,IIIA,AR,F1,S1,R1

Manufacturer

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



Draw by: Michal Dybicz
Date: 28-11-2018
sheet Nr. 4/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

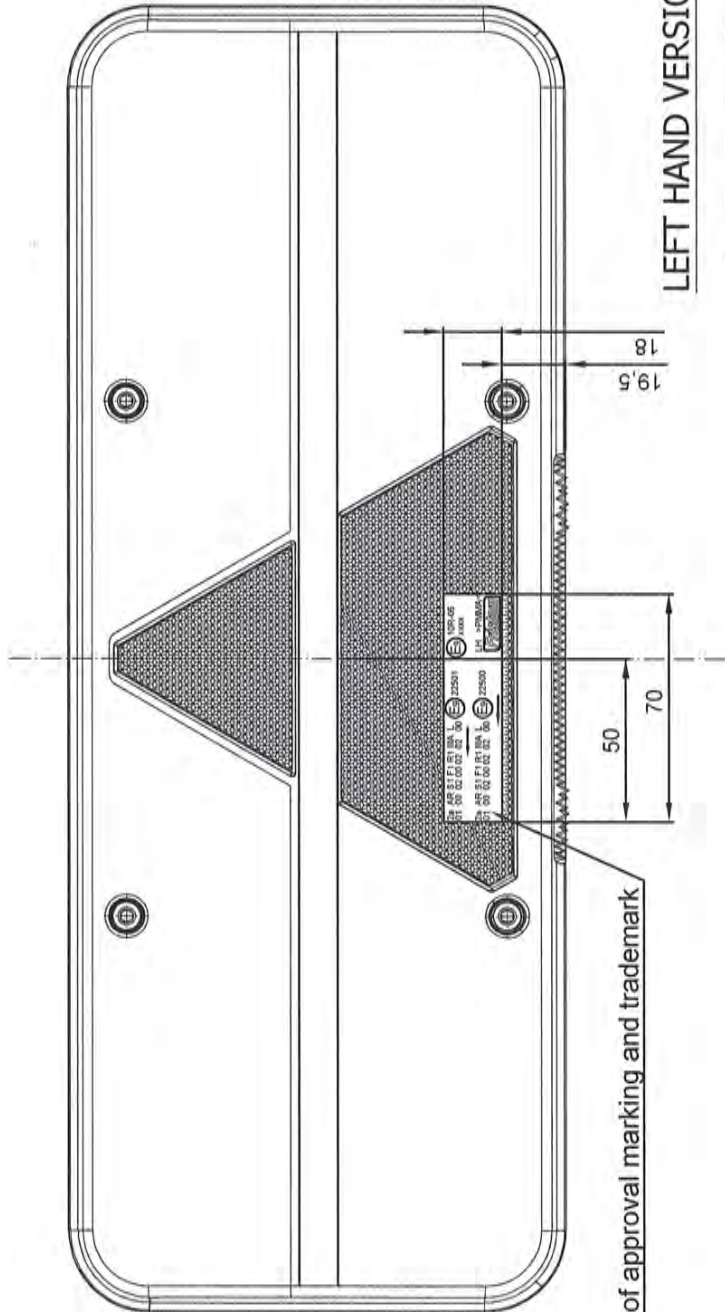
sheet description

trademark and approval markings

This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white



location of approval marking and trademark

LEFT HAND VERSION APPROVAL MARKING

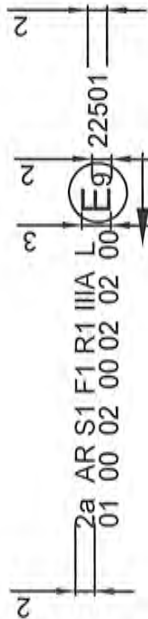
2a	AR	S1	F1	R1	IIIA	L	(E9)	22501	(E9)	10R-05
01	00	02	00	02	02	00				xxxx
2a	AR	S1	F1	R1	IIIA	L	(E9)	22500	LH	>PMMA<
01	00	02	00	02	02	00				FRISTOM

RIGHT HAND VERSION APPROVAL MARKING

2a	AR	S1	F1	R1	IIIA	L	(E9)	22501	(E9)	10R-05
01	00	02	00	02	02	00				xxxx
2a	AR	S1	F1	R1	IIIA	L	(E9)	22500	RH	>PMMA<
01	00	02	00	02	02	00				FRISTOM

FRISTOM

spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Ścienko, ul. Przemysłowa 5
NIP: 5542926937, REGON 341640907
reprezentowany przez FRISTOM sp. z o.o.



LEFT HAND VERSION DRAWN

ONLY HORIZONTAL ASSEMBLY ON TRAILER

IDIADA PC18110355

Manufacturer

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



Draw by:

Michał Dybiec

Date:

28-11-2018

sheet Nr.

5/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

sheet description

2a LED MODULE AND MARKINGS

This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white

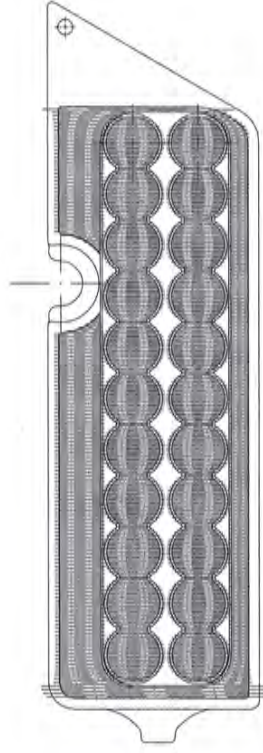
2a LED MODULE LEFT HAND VERSION DRAWN

ELECTRICAL DATA:

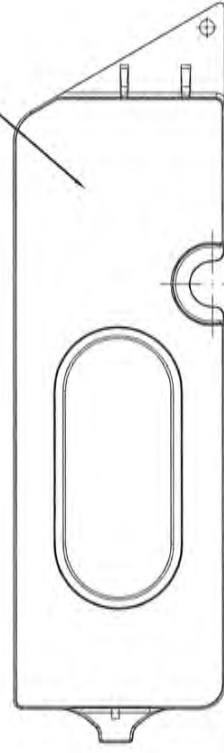
22 Led`s amber light color

12V- 4,1W / 24V - 4,1W

2 LED`s serial connected in 11 parallel sections



PLACE FOR MODULE MARKING
AND ELECTRICAL PARAMETERS



LH lamp - direction indicator module
Lampa lewa - moduł kierunkowskazu
12V/24V = 4,1W/4,1W
MD E9 22501/1

FRISTOM

spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Sielenka / ul. Przemysłowa 5
NIP: 5542926937, REGON 341640907
reprezentowana przez FRISTOM sp. z o.o.

Manufacturer

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



Draw by: Michal Dylicz
Date: 28-11-2018
sheet Nr. 6/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

sheet description

AR LED MODULE AND MARKINGS

This drawing is a part of the application for approval extension

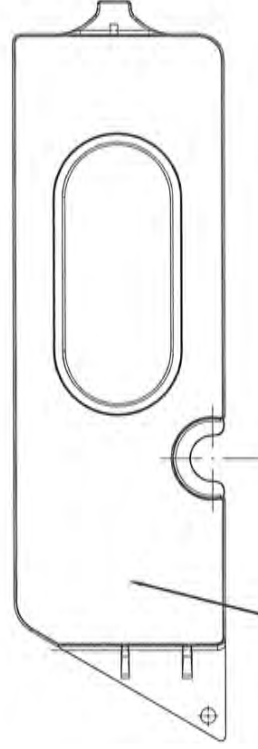
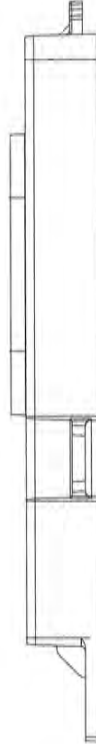
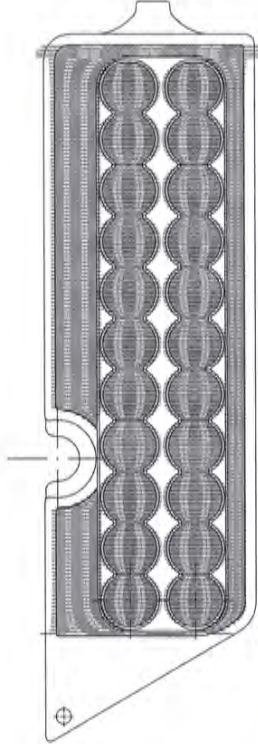
Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS, vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white

AR LED MODULE LEFT HAND VERSION DRAWN

ELECTRICAL DATA:

22 Led`s white light color
12V- 1,2 W / 24V - 1,2 W
2 LED`s serial connected in 11 parallel sections

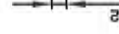


PLACE FOR MODULE MARKING
AND ELECTRICAL PARAMETERS

FRISTOM

spółka z ograniczoną odpowiedzialnością Sp.k.
86-014, Sicienka ul. Przemysłowa 5
NIP: 5542926937, REGON 341640907
reprezentowana przez FRISTOM sp. z o.o.

LH lamp - reversing light module
Lampa lewa - moduł światła cofania
12V/24V = 1,2W/1,2W
MD E9 22501/2



Manufacturer

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



Draw by: Michal Dybicz Date: 28-11-2018 sheet Nr. 7/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

sheet description

F1 LED MODULE AND MARKINGS

This drawing is a part of the application for approval extension

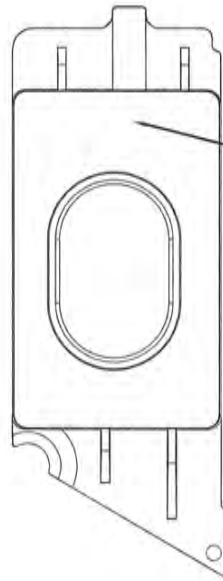
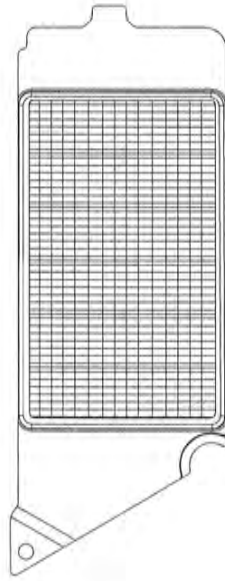
Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS - vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white

F1 LED MODULE LEFT HAND VERSION DRAWN

ELECTRICAL DATA:

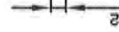
18 Led`s red light color
12V- 4,1 W / 24V - 4,1 W
3 LED`s serial connected in 6 parallel sections



PLACE FOR MODULE MARKING
AND ELECTRICAL PARAMETERS

FRISTOM
spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Siedlenko, ul. Przemysłowa 5
NIP: 5542926937, REGON 341640907
reprezentowana przez FRISTOM sp. z o.o.

LH lamp - rear fog light module
Lampa lewa - moduł światła przeciwmgiłowego
12V/24V = 4,1W/4,1W
MD E9 22501/4



Manufacturer

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



Draw by: Michal Dybicz Date: 28-11-2018 sheet Nr. 8/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

sheet description

S1 LED MODULE AND MARKINGS

This drawing is a part of the application for approval extension

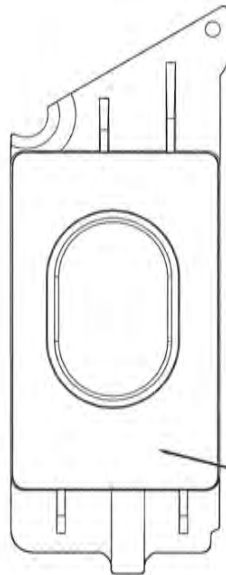
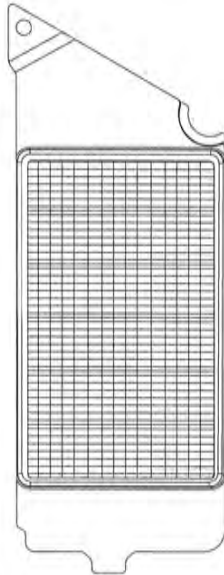
Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white

S1 LED MODULE LEFT HAND VERSION DRAWN

ELECTRICAL DATA:

18 Led`s red light color
12V- 4,1 W / 24V - 4,1 W
3 LED`s serial connected in 6 parallel sections



PLACE FOR MODULE MARKING
AND ELECTRICAL PARAMETERS

FRISTOM

spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Sicienko / ul. Przemysłowa 5
NIP: 5542926937 REGON 341640907
reprezentacja przez FRISTOM SP. Z O.O.

LH lamp - stop light module
Lampa lewa -moduł światła stop
12V/24V = 4,1W/4,1W
MD E9 22501/3



Manufacturer

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



Draw by:

Michał Dybicz

Date:

28-11-2018

sheet Nr.

9/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

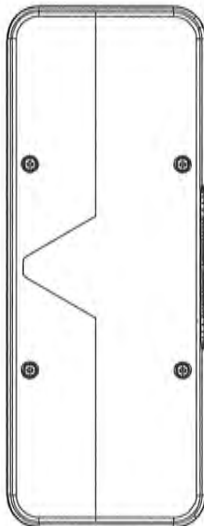
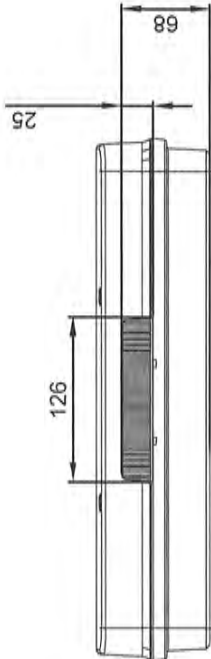
sheet description

wattage and voltage markings

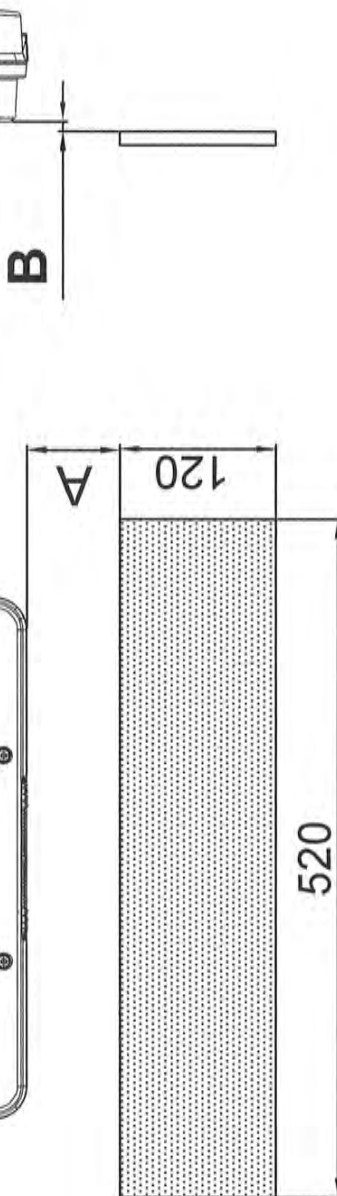
This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white



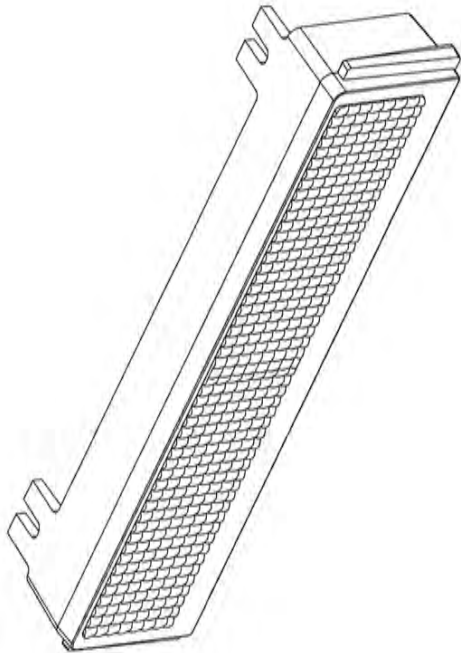
registration plate light lamp positioning	
A [mm]	B [mm]
36	0
10	0
36	10
10	10



FRISTOM

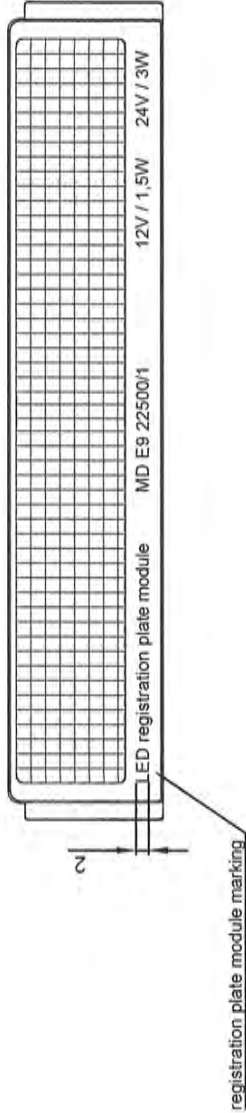
spółka z ograniczoną odpowiedzialnością Sp. K.
86-014 Sicienko, ul. Przemysłowa 5
NIP/ 5542926937, REGON 341640907
reprezentowana przez FRISTOM Sp. z o.o.

Manufacturer FRISTOM Spółka z ograniczoną odpowiedzialnością Sp.K. 86-014 Ścieżenka / Polska ul. Przemysłowa 5 NIP: 5542926937, KRS: 0000529238 Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41	Component FT-500 LED - rear combination lamp EXT1	Material used in manufacturing : - lampshade PMMA red transparent and clear transparent - reflector base PC or ABS , vacuum Al coated - reflex reflectors PMMA clear transparent - direction indicator chamber filter PMMA amber transparent - housing ABS black - PCB for rear position light and side marker FR4 - potting compound epoxy resin - filament contacts steel zinc coated - lampshade-housing sealing PU foam - LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent - LED modules 2a;AR;F1;S1 lampshade cover -PC white
light source LED showed on drawing	sheet description LED registration plate light module This drawing is a part of the application for approval extension	Draw by: Michal Dybicz Date: 28-11-2018 sheet Nr. 10/15



LED Registration plate light module
 6 white light color LED's
 3 LED's serial connected in 2 parallel sections
 12V / 1,5W
 24V / 3W

FRISTOM
 spółka z ograniczoną odpowiedzialnością Sp.k.
 86-014 Ścieżenka ul. Przemysłowa 5
 NIP: 5542926937, REGON 341640907
 reprezentowany przez FRISTOM sp. z o.o.



Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp.K.
86-014 Sicienka / Polska
ul. Przemysłowa 5
NIP: 5542923737, KRS: 0000529238
Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41



Draw by: Michal Dybicz
Date: 28-11-2018
sheet Nr. 11/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

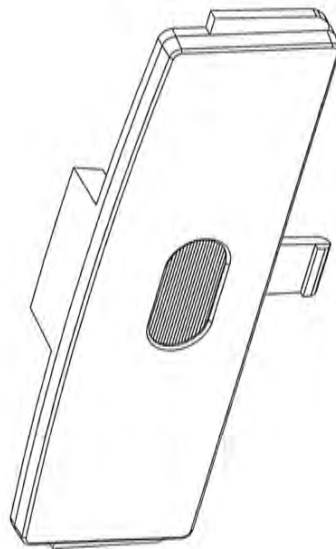
sheet description

LED sidemarking light module with markings

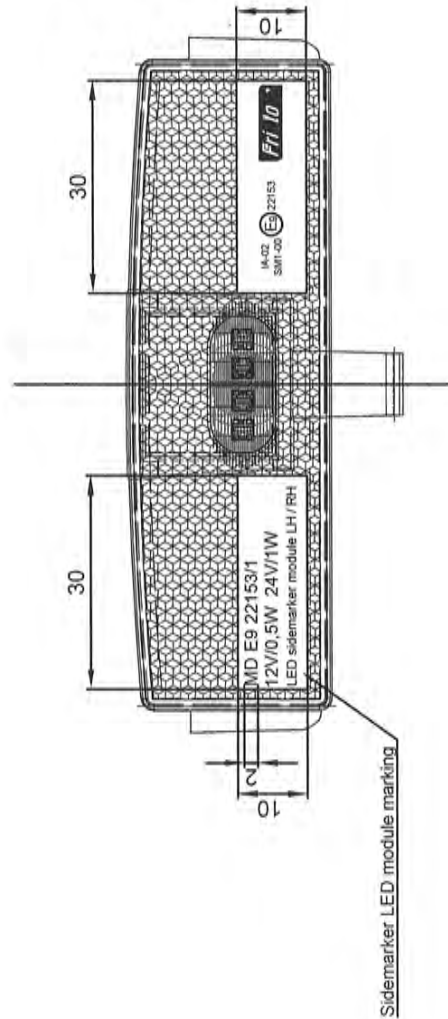
This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white



LED sidemarking module
4 red light color LED's
4 LED's serial connected in one section
12V/0.5W 24V/1W



Sidemarking LED module marking

FRISTOM

spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Sicienka, ul. Przemysłowa 5
NIP: 5542923737, REGON 341640907
reprezentowana przez FRISTOM sp. z o.o.

Manufacturer

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



Draw by:

Date:

28-11-2018

sheet Nr.

12/15

light source

LED

showed on drawing

sheet description

LED rear position light module

This drawing is a part of the application for approval extension

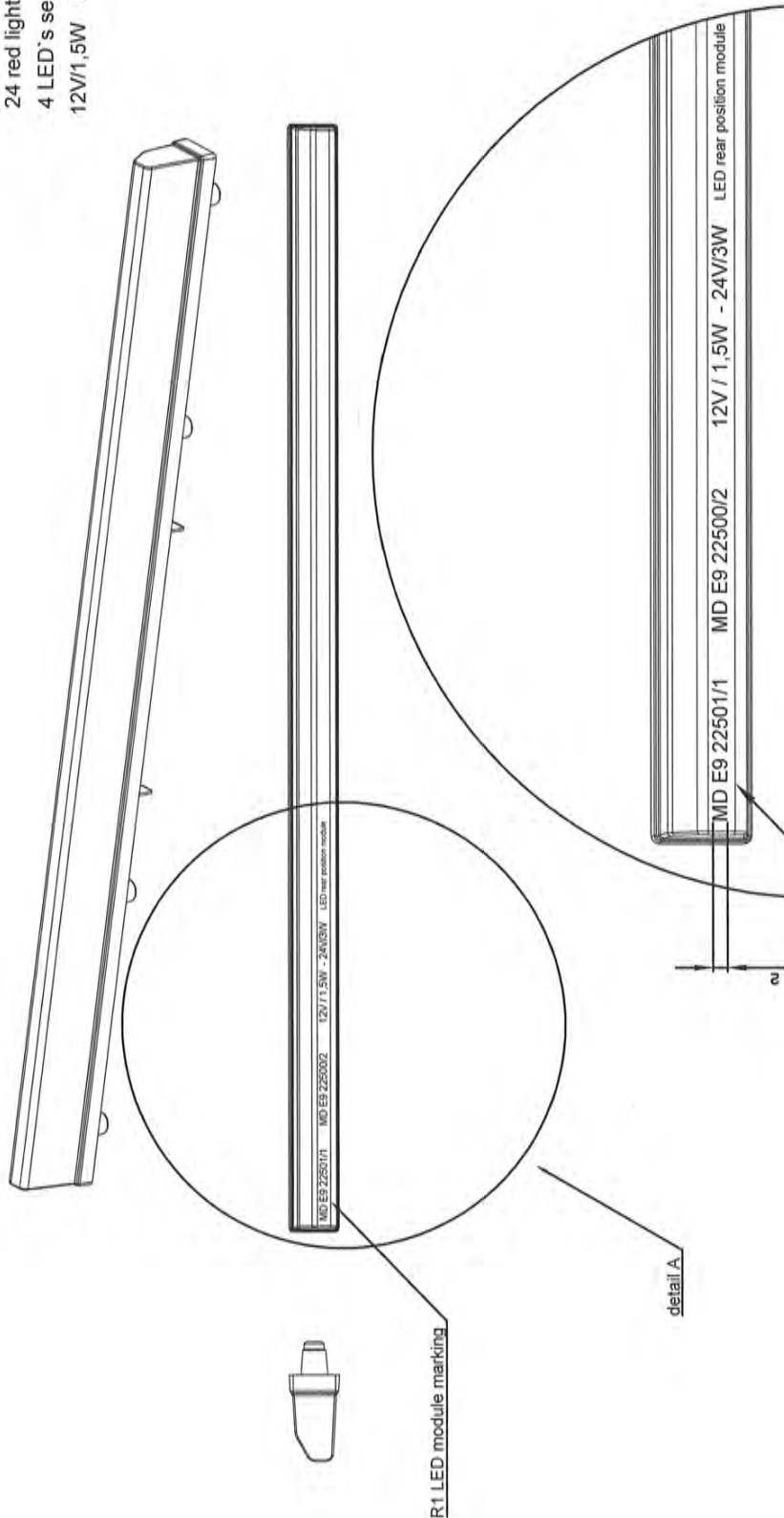
Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens-PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white

Component

FT-500 LED - rear combination lamp EXT1

LED rear position light module
24 red light color LED's
4 LED's serial connected in 6 parallel sections
12V/1,5W 24V/3W



R1 LED module marking

FRISTOM

Spółka z ograniczoną odpowiedzialnością Sp. K.
86-014 Sicienko, ul. Przemysłowa 5
NIP: 5542926937, REGON 341640907
reprezentowane przez FRISTOM sp. z o.o.

Manufacturer

FRISTOM Spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Ścieńko / Polska
ul. Przemysłowa 5
NIP: 5542928937, KRS: 0000529238
Tel.: +48 52 360 90 51, Fax: +48 52 327 75 41



Draw by: Michał Dybicz
Date: 28-11-2018
sheet Nr.: 13/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

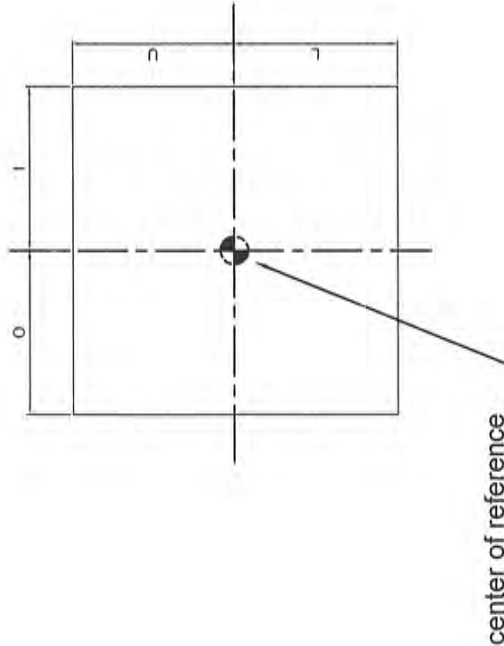
sheet description

illuminating surfaces

This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white



lighting surface

function	U _{upper limit} [mm]	L _{lower limit} [mm]	O _{outer body} [mm]	I _{inner body} [mm]
rear direction indicator 2a (LED)	15	15	68	68
reversing light AR (LED)	15	15	68	68
rear fog light (LED)	23	23	38	38
stop light (LED)	23	23	38	38
rear position light (LED)	7	7	177	177
sidemarker red (LED)	11	11	5	5
registration plate light (LED)	12	12	63	63

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 48/01 "Installation of light and light-signalling devices" clause 2.9.2.

FRISTOM

spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Ścieńko, ul. Przemysłowa 5
NIP: 5542928937, REGON 341640907
reprezentowana przez FRISTOM sp. z o.o.

Component

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS, vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white

FT-500 LED - rear combination lamp EXT1

sheet description

variants

This drawing is a part of the application for approval extension

light source

1 FD

showed on drawing

Date:	sheet Nr.:
-------	------------

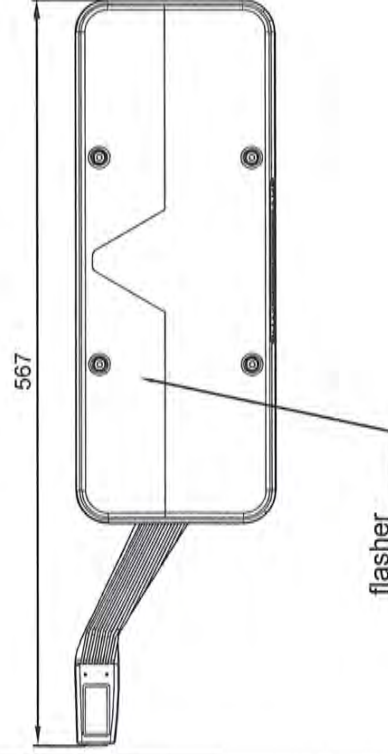
14/15

Date:

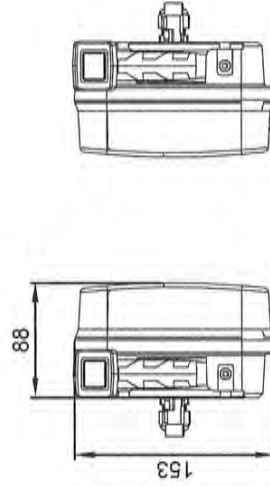
28-11-2018

Variants of FT-500 LED

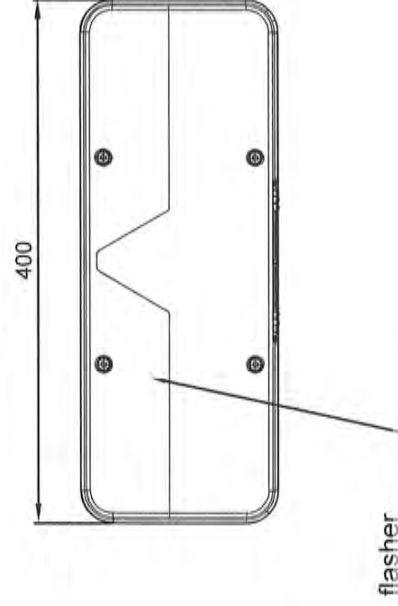
FT-500 LED LH with rubberarm lamp



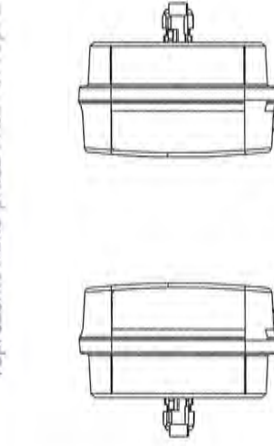
FT-500 LED RH with rubberarm lamp



FT-500 LED LH



FT-500 LED RH

flasher

ERISTOM

spółka z ograniczoną odpowiedzialnością Sp. z o.o.
86-014 Siciemko, ul. Przemysłowa 5
NIP: 5542976937, REGON 341640907
reprezentowana przez PRISTOM Sp. z o.o.

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



Manufacturer

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



Draw by: Michal Dybicz
Date: 28-11-2018
sheet Nr. 15/15

Component

FT-500 LED - rear combination lamp EXT1

light source

LED
showed on drawing

sheet description
variants

This drawing is a part of the application for approval extension

Material used in manufacturing :

- lampshade PMMA red transparent and clear transparent
- reflector base PC or ABS , vacuum Al coated
- reflex reflectors PMMA clear transparent
- direction indicator chamber filter PMMA amber transparent
- housing ABS black
- PCB for rear position light and side marker FR4
- potting compound epoxy resin
- filament contacts steel zinc coated
- lampshade-housing sealing PU foam
- LED modules 2a;AR;F1;S1 lampshade/lens -PC clear transparent
- LED modules 2a;AR;F1;S1 lampshade cover -PC white

Variants of FT-500 LED

	LH	RH	rubberarm	registration plate light	cable connection	AMP connector	AMP superSeal connector	reversing warning beeper
FT-500-15 LED	x				x			
FT-500-145 LED	x			x	x			
FT-500-157 LED	x				x		x	
FT-500-1457 LED	x			x	x		x	
FT-500-16 LED	x					x		
FT-500-146 LED	x			x		x		
FT-500-167 LED	x					x	x	
FT-500-1467 LED	x			x		x	x	
FT-500-1678 LED	x					x	x	x
FT-500-14678 LED	x			x		x	x	x
FT-500-135 LED	x		x		x			
FT-500-1345 LED	x		x	x	x			
FT-500-1357 LED	x		x		x		x	
FT-500-13457 LED	x		x	x	x		x	
FT-500-136 LED	x		x			x		
FT-500-1346 LED	x		x	x		x		
FT-500-1367 LED	x		x			x	x	
FT-500-13467 LED	x		x	x		x	x	
FT-500-13678 LED	x		x			x	x	x
FT-500-134678 LED	x		x	x		x	x	x
FT-500-25 LED		x			x			
FT-500-245 LED		x		x	x			
FT-500-257 LED		x			x		x	
FT-500-2457 LED		x		x	x		x	
FT-500-26 LED		x				x		
FT-500-246 LED		x		x		x		
FT-500-267 LED		x				x	x	
FT-500-2467 LED		x		x		x	x	
FT-500-2678 LED		x				x	x	x
FT-500-24678 LED		x		x		x	x	x
FT-500-235 LED		x	x		x			
FT-500-2345 LED		x	x	x	x			
FT-500-2357 LED		x	x		x		x	
FT-500-23457 LED		x	x	x			x	
FT-500-236 LED		x	x		x			
FT-500-2346 LED		x	x	x		x	x	
FT-500-2367 LED		x	x		x		x	
FT-500-23467 LED		x	x	x		x	x	
FT-500-23678 LED		x	x		x		x	x
FT-500-234678 LED		x	x	x		x	x	x

FRISTOM

spółka z ograniczoną odpowiedzialnością Sp.k.
86-014 Sienkowo, ul. Przemysłowa 5
NIP: 5542926937, REGON 341640907
reprezentacja przy FRISTOM Sp. z o.o.