Argos-Electron Ltd

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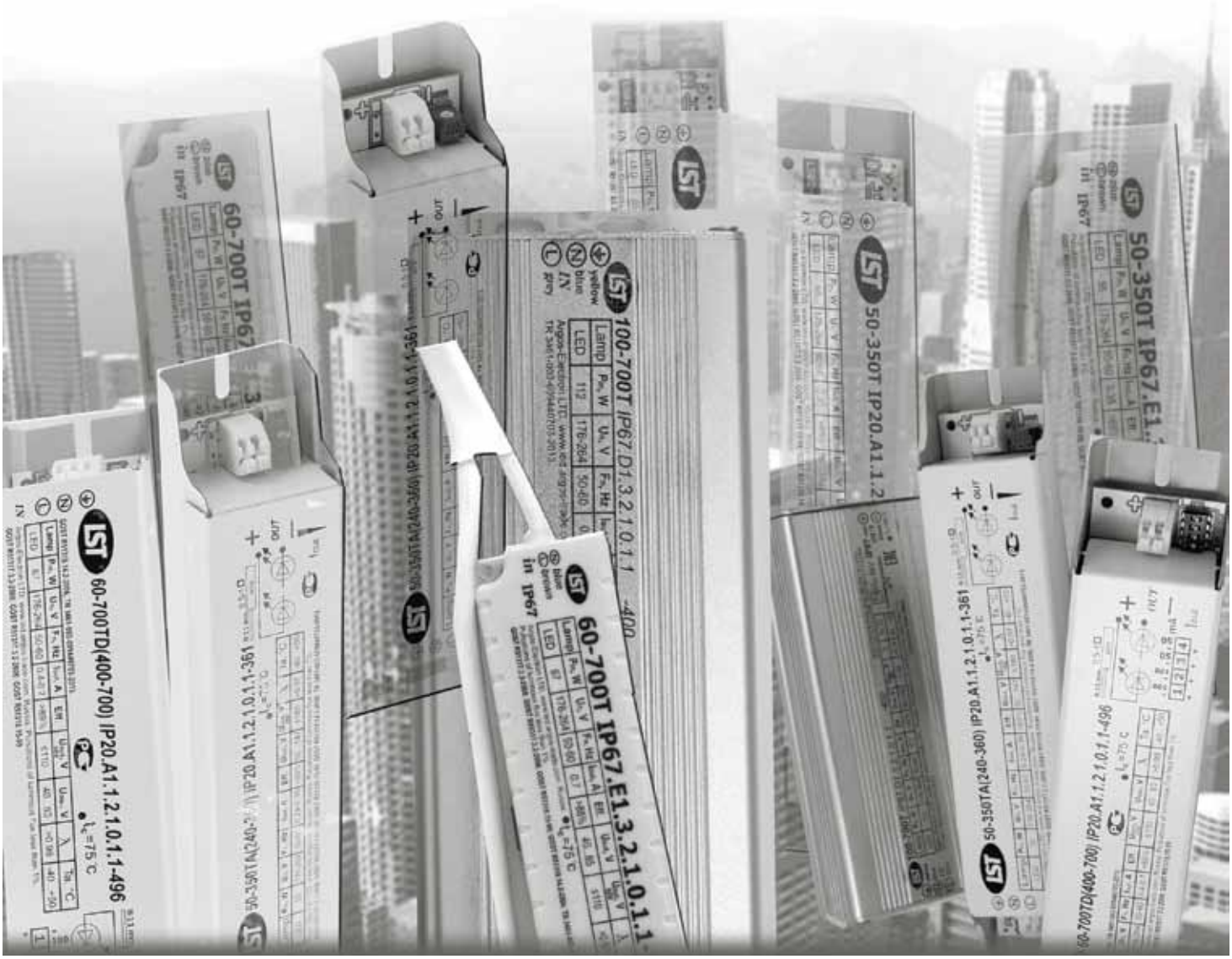
Catalogue 2014

Current Constant LED Drivers and LED modules



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Constant Current LED drivers IP20 35-300TA (300-390), 35-350TD (220-300)

		35-300TD (220-300) IP20.B1.1.2.1.0.1.1	35-350TA (300-390) IP20.B1.1.2.1.0.1.1
Output parameters	Output current	0.22 A ±5% to 0.30A±5%	0.3-0.39 A ±5% discrete interval 10 mA
	Admissible output voltage range	30 V - 115 V	30 V - 90 V
	Output current ripple	<3 mA	
	Pulsations of luminos flux	<1%	
	Turn-on time	1.3 sec	
	Max output power	35 W	35 W
Input parameters	Max Input power	39 W	39 W
	Supply voltage	176V - 264V AC / 250V - 370V DC	
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC	
	Power factor corrector	yes	
	Frequency range	45 Hz - 65 Hz	
	Power factor	~ 0,98	
	Efficiency	~ 85%	~ 86%
	Nominal AC current	0.16 A	
	Inrush current	0.3 A max	
	Leakage current	<0.7 mA	
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011	
Protection	Over voltage	restores automatically	
	Output	> 115 V	> 100 V
	Short circuit protection	restores automatically	
Operating conditions	Ambient tempereture	–40°C to +50°C	
	Humidity	<95%,RH non-condencing	
	Vibratory loads, max	0.5-35 Hz, 5м/sec^2, 30 min	
	Connection type	detachable terminal blocks	
Safety	Galvanic isolation	yes	
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC	
	Isolation resistance (between live parts and body)	>200 MOhms	
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013	
Others	Dimension (LxWxH), mm	202x30x27	
	Storage conditions	-60°C to +85°C	
	Lifetime	60000 h	
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date	

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature

1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed.

For the TA version of LED Divers necessary adjustment of its output current is provided by the adjustable resistor. For the version TD of LED Drivers adjustment of its output current is provided discretely by using the DIP-switch located on a PCB.

Derating may be needed under low input voltage. Please check the static characteristics for more details.

LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

Current Constant LED drivers IP20 30-900T, 37-900T

	LED Driver\Specification	30-900T IP20.B.1.2.1.0.1.1	37-900T IP20.A.1.2.1.0.1.1
Output parameters	Output current	0.9 A ±5%	0.9 A ±5%
	Admissible output voltage range	22 V - 33 V	27 V - 44 V
	Output current ripple	<9 mA	
	Pulsations of luminos flux	<1%	
	Turn-on time	1.3 sec	
	Max output power	30 W	37 W
Input parameters	Max Input power	34 W	42 W
	Supply voltage	176V - 264V AC / 250V - 370V DC	
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC	
	Power factor corrector	yes	
	Frequency range	45 Hz - 65 Hz	
	Power factor	~ 0.96	~ 0.97
	Efficiency	~ 85%	~ 87%
	Nominal AC current	0.16 A	0.18 A
	Inrush current	0.3 A max	
	Leakage current	<0.7 mA	
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011	
Protection	Over voltage	restores automatically	
	Output	> 35 V	> 47 V
	Short circuit protection	restores automatically	
Operating conditions	Ambient tempereture	-40°C to +50°C	
	Humidity	<95%,RH non-condencing	
	Vibratory loads, max	0.5-35 Hz, 5м/sec^2, 30 min	
	Connection type	detachable terminal blocks	
Safety	Galvanic isolation	yes	
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1,5 kV AC	
	Isolation resistance (between live parts and body)	>200 MOhms	
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013	
Others	Dimension (LxWxH), mm	202x30x27	202x40x27
	Storage conditions	-60°C to +85°C	
	Lifetime	60000 h	
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date	

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature

1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed.

Derating may be needed under low input voltage. Please check the static characteristics for more details.

LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

Current Constant LED driver 60-700T, Cylindrical

	LED Driver\Specification	60-700T IP00.F0.1.2.1.0.1.1
Output parameters	Output current	0.7 A ±5%
	Admissible output voltage range	40 V - 85 V
	Output current ripple	<7 mA
	Pulsations of luminos flux	<1%
	Turn-on time	1.4 sec
	Max output power	60 W
Input parameters	Max Input power	68 W
	Supply voltage	176V - 264V AC / 250V - 370V DC
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC
	Power factor corrector	yes
	Frequency range	45 Hz - 65 Hz
	Power factor	~ 0.96
	Efficiency	~ 85%
	Nominal AC current	0.16 A
	Inrush current	0.53 A max
	Leakage current	<0.7 mA
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011
Protection	Over voltage	restores automatically
	Output	> 86 V
	Short circuit protection	restores automatically
Operating conditions	Ambient tempereture	-40°C to +50°C
	Humidity	<95%,RH non-condencing
	Vibratory loads, max	0.5-35 Hz, 5м/sec^2, 30 min
	Connection type	entry - wire 3x0.75 mm2 length 300 mm. Exit - wire 2x0.75 mm2 length 300 mm. PVC (opertating temperature to - 40˚C)
Safety	Galvanic isolation	yes
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC
	Isolation resistance (between live parts and body)	>200 MOhms
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013
Others	Dimensions	Cylindrical, 80mm in diametre, height 28мм
	Storage conditions	-60°C to +85°C
	Lifetime	60000 h
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 ^{0}C of ambient temperature

1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed.

Derating may be needed under low input voltage. Please check the static characteristics for more details. LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

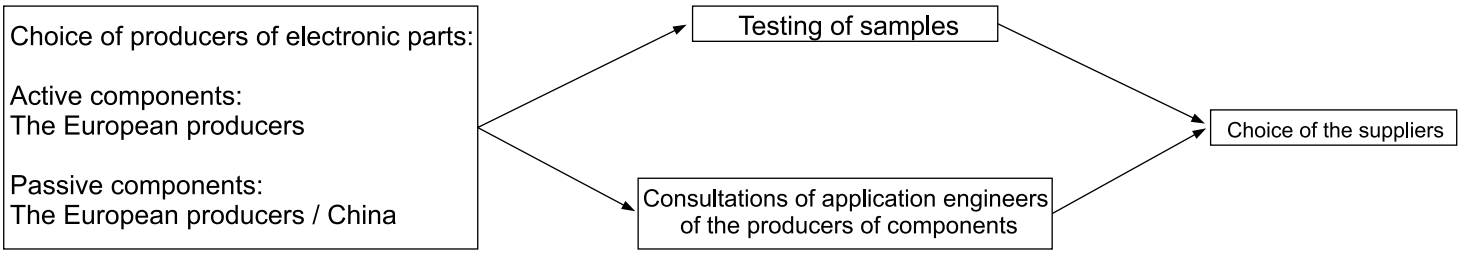
Ordering information

LED driver Lst[1] 50[2]-350[3]T[4]A(300-390)[5] IP20[6].A1[7].1[8].2[9].1[10].0[11].1[12].1[13]-357[14]

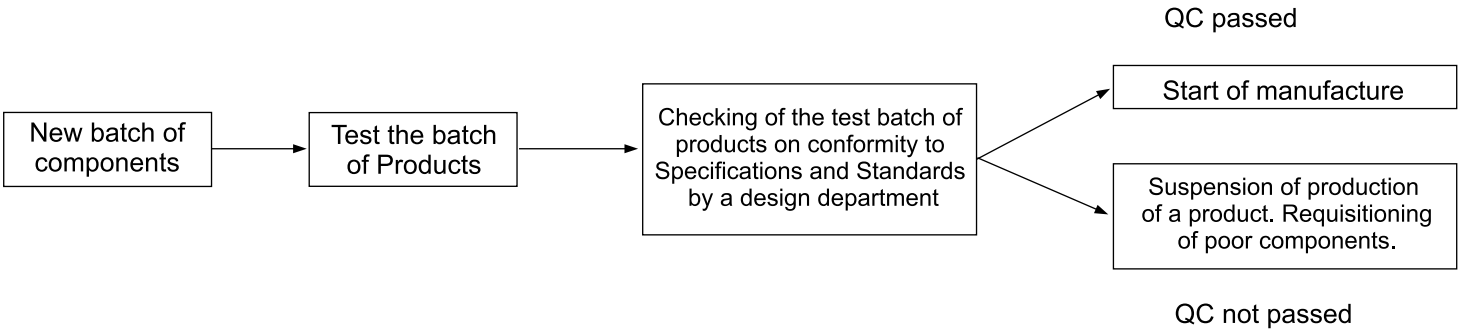
LED Driver Lst	1. Brand name: Lst
50	2. Output power, W: 50 W
-350	3. Default Operating current, mA: 350 mA
T	4. Regulation Mode: T – current regulator
A (300-390)	5.Current adjustment: _ – fixed; **A** – adjustable by pot; **D** – discretely by switch Current trim range, mA: from 300 mA up to 390 mA
IP20	6. IP (International Protection Rating): IP20, IP67
A1	7. Form factor (PCB & Case): **A** – PCB for metal case 202×40×27 mm **B** – PCB for narrow metal case 202×30×27 mm **D** – PCB for aluminum case 189×64×38 mm **E** – PCB for gaunt sealed plastic case 145×40×30 mm **F** – PCB for cylindrical case: diameter - 80 mm, height - 28 mm **0** – without case; 1 – case corresponding to PCB; 2 – sealed, without case
1.	8. Type of connecting terminals: **1** – Push-Wire Connectors; **2** – Wires (PVC); **3** – Wires
2.	9. Number of stages: 1 – Single-Stage; 2 – Two-Stage
1.	10. Current ripple at maximum output voltage: **1** – less 1%; **2** – less 5%; **3** – less 10%; **4** – less 15%; **5** – less 20%; **6** – less 50%; **7** – less 100%
0.	11. Dimming: **0** – none; **1** – dual-mode: full current (100%) or 20%; **2** – PWM: **3** – 1-10Vdc; **4** – phase; **5** - DALI
1.	12. PFC (Power Factor Correction): **0** – none; **1** - yes
1-	13. Galvanic isolation: **0** – none; **1** - yes
357	14. Manufacturer specification number: 357

Quality management system

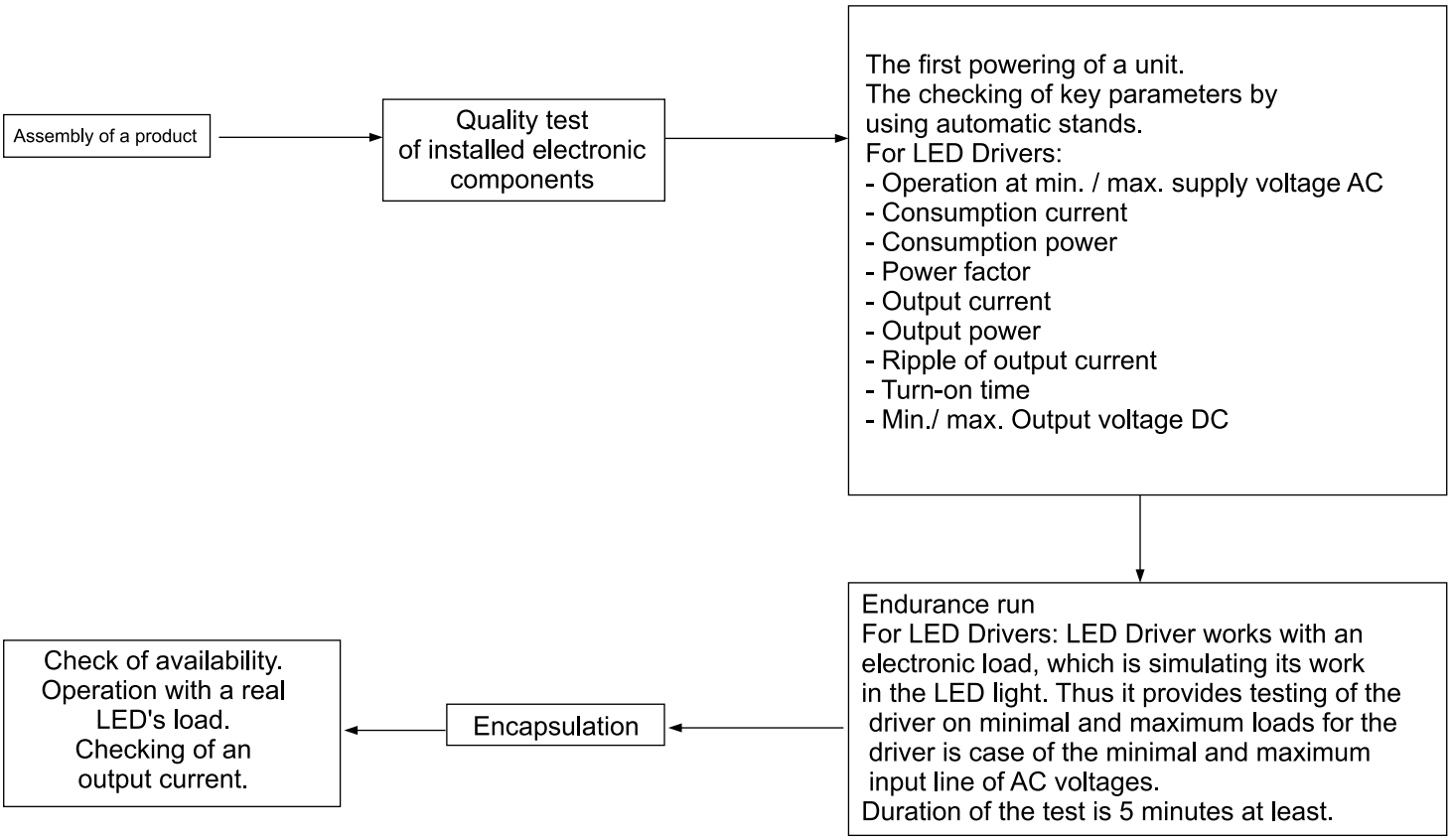
1st Stage



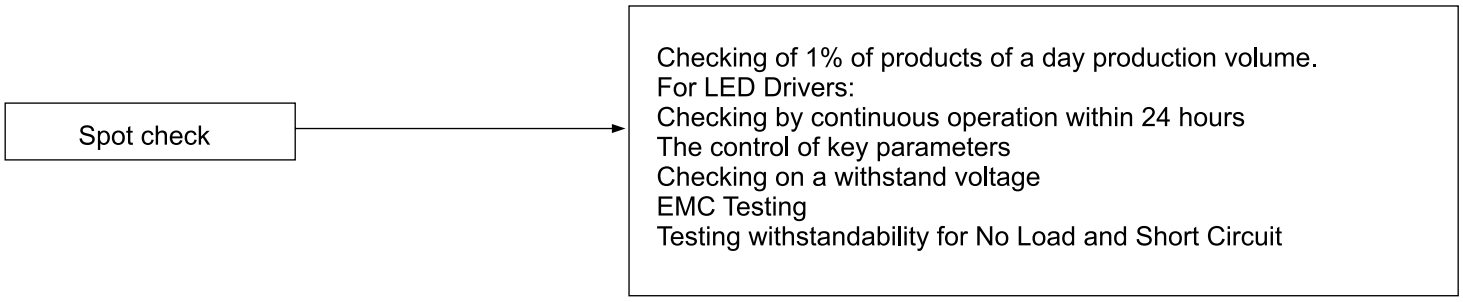
2nd Stage



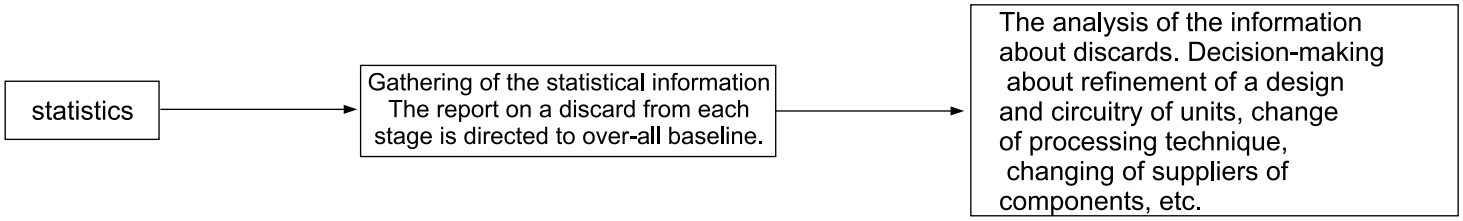
3rd Stage



4th Stage



5th Stage



LED Intelligent Modules for the House and Public Utilities Lights

LED Specification:

Type: Family – SEOUL STW8Q145C

- Luminous Flux Bins: W5.
- Forward Voltage Bins: Y3 (2.9-3.0), Z1 (3.0-3.1), Z2 (3.1-3.2), Z3 (3.2-3.3), A1 (3.3-3.4)
- Correlated Color Temperature (CCT) Bins:
- 4000K - E12; E13; E22; E23; E32; E33; E42; E43;
- 5000K - C12; C13; C22; C23; C32; C33; C42; C43.
- Luminous efficacy:
- 4000K Bin W5 @ 100mA – 137 lm/W; and @ 175mA – 114 lm /W
- 5000K Bin W5 @ 100mA – 140 lm/W; and @ 175mA – 116 lm /W
- Color Rendering Index (CRI) >80
- Operating Temperature Range of LEDs -40 + 85ºC
- Viewing angle (FWHM) of LEDs 120º

PCB specification:

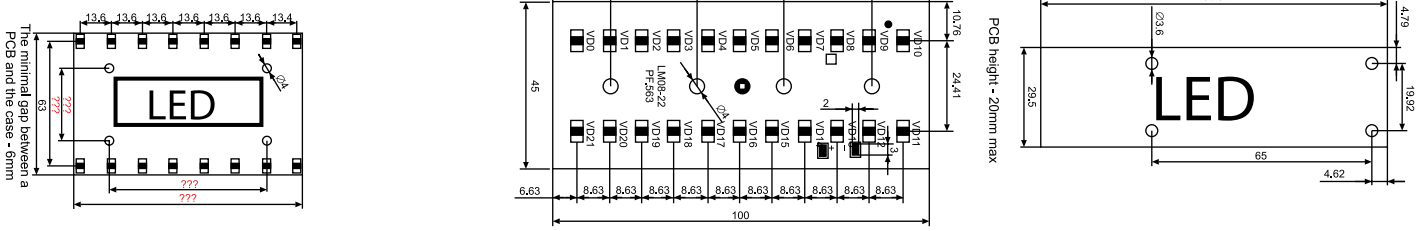
- Number of LEDs: 16; 22
- Type of LEDs connection: all LEDs are connected in series
- PCB material, IP: glass-reinforced epoxy laminate FR4, IP00
- Maximum hot spot temperature Tc2: 85°C
- PCB fitting: rivets (Ø 3,2mm) or screws (M3)

Principle of action of the Intelligent Module (LED module & LED Driver with a standby feature and the opto-acoustic sensor)

Each 60 seconds the Intelligent Module checks a level of ambient illumination and presence of sounds:

- Module immediately will be turned on to standby mode in case of darkness and silence.
- Module immediately will be turned on to full power mode in case of darkness, but some sounds are presented.
- Module will never be turned on to full power mode if ambient illumination is presented.

Overall Dimensions:



Ordering Information

Type of Module	IP Code	Feature	Marking of Goods
LED Intelligent Modules for the House and Public Utilities Lights	IP20	open-frame	LED light “Domus-Intelligent” standby mode, sensor, 16 led Seoul 4000K, Combo
Example of coding:	IP20	open-frame	LED light “Domus-Intelligent” standby mode, sensor, 16 led Seoul 5000K, Combo
LED light “Domus-Intelligent” standby mode, sensor, 16 led Seoul 5000K Combo	IP20	open-frame	LED light “Domus-Intelligent” standby mode, sensor, 22 led Seoul 4000K, Combo
LED light “Domus-Intelligent” model	IP20	open-frame	LED light “Domus-Intelligent” standby mode, sensor, 22 led Seoul 5000K, Combo
Standby sensor: Stand-by mode, opto-acoustic sensor	IP20	open-frame	LED light “Domus-Intelligent” , 16 led Seoul 4000K + Driver, standby sensor
number of LEDs on PCB 16 led	IP20	open-frame	LED light “Domus-Intelligent” , 16 led Seoul 5000K + Driver, standby sensor
Correlated Color Temperature, CCT 5000K	IP20	open-frame	LED light “Domus-Intelligent” , 22 led Seoul 4000K +Driver, standby sensor
Type Combo: joint design	IP20	open-frame	LED light “Domus-Intelligent” , 22 led Seoul 5000K + Driver, standby sensor

LED Intelligent Modules for the House and Public Utilities Lights		16 LEDs, driver standby mode, sensor	22 LEDs, driver standby mode, sensor
Output	Output current: nominal power; standby mode	0.16 A ±5%; 0.035 A ±5%	0.16 A ±5%; 0.035 A ±5%
	Power consumption: nominal power; standby mode	9,78 W nominal / 3,05 W standby	13,28 W nominal / 3,63 W standby
	Pulse Current: nominal power; standby mode	< 30mA; < 3,85mA	< 21mA; < 3mA
	Pulsations of a luminous flux of the module: nominal power; standby mode	< 18%; < 11%	< 13%; < 8%
	luminous flux of modules (Tc - 65 ^{0}C @ 4000K): nominal power; standby mode	1062lm; 256 lm	1460lm; 350 lm
	luminous flux of modules (Tc - 65 ^{0}C @ 4000K): nominal power; standby mode	1025lm; 257 lm	1409 lm; 353 lm
Input	Input range (nominal)	176 – 264VAC	
	Input range max.[1]	150 – 280VAC	
	Power factor correction (PFC)	Active	
	Frequency of input voltage	45 Hz – 65 Hz	
	Power factor, PF: nominal power; standby mode	0.966; 0.748	0.979; 0.793
	Input current: nominal power; standby mode	0.046 A; 0.018A	0.061 A; 0.020 A
	Inrush current	Meets current of consumption	
	Leakage current	0.1 mA	
	Electromagnetic compatibility (Radio disturbance)	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011	
Protection	No-load running protection	Automatic Recovery	
Types of LEDs	Seoul STW8Q14C 5630 (bin w5)	16LED	22LED
Opto-acoustic sensor	"Optical threshold of activation"	~10 lux	
	"Acoustical threshold of turning on (possible range) For example: whisper, rustle, rustling - 65dB; a clap hands - 80dB "	80 dB	
	The filter of reduction of sensitivity to low-frequency background noise (including street noises)	Yes	
	Restart for control	Each 60 c	
Usage conditions	Operating Temperature (ambient)	–40 °C to +40 °C	
	IP Code	IP00	
	Vibration	0,5Hz – 35 Hz, 5m/sec^2, 30 min	
	Storage temperature	–60 °C to +85 °C	
Safety	Galvanic isolation	none	
	Isolation Voltage: (input - ground); (output - ground)	> 1,5 kVAC	
	Isolation Resistance (between current-carrying and case)	> 200 MOhm	
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013	
Overall Dimensions, Types of connection	Variant 1 separated LED module, driver	LED Driver – 102mm×29,5mm×20mm , LED module – 100mm×45mm×2,5mm	
	Variant 2 combined: LED module & driver	100x63x20	
	Type of connection for variant [2]	Input terminals – wire PVC(A)-LS 3*0,5, White, outside diameter from 5 mm up to 5.6 mm, (Operating Temperature - 40 °C)	
MTBF		> 50000 hours	
Warranty		3 Years for LED Driver with sensor from the day of putting into operation, but not longer than 4 years from the date of delivery	

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature

1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed.

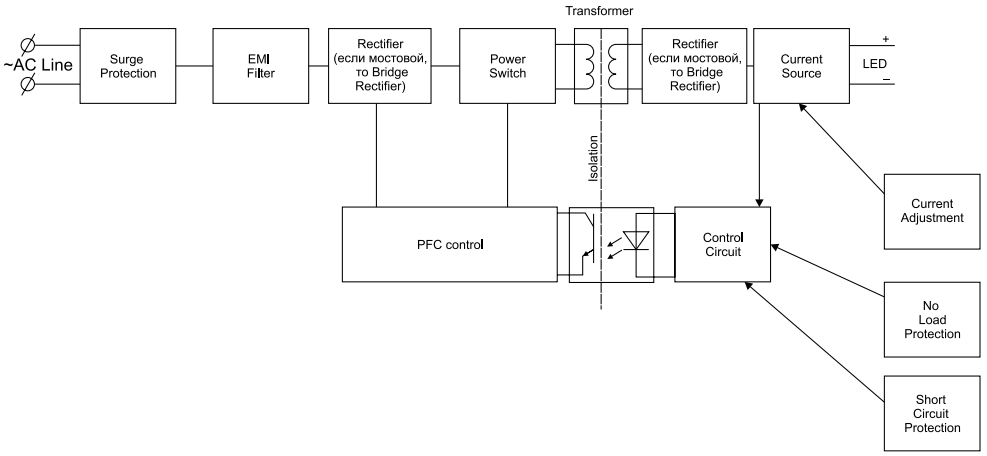
Constant Current LED drivers 30-300T, 30-350T, 30-375T, 30-390T

- Eyes friendly product. Pulsations of a luminous flux: ~0,1 %
- A narrow case "Invisible being" is ideal for office lights
- An universal driver with an adjustable or setting output current
- The galvanic isolation provides electrical safety of the light
- Conformity to EMC standard requirements
- Efficiency: ~ 90 %; PF: ~ 0,98
- Conformity to standards on harmonics of power voltage
- Environment operating conditions: +50 ^{0}C — 40 ^{0}C
- 5 stages of quality control by manufacture:
  from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- 3 years warranty

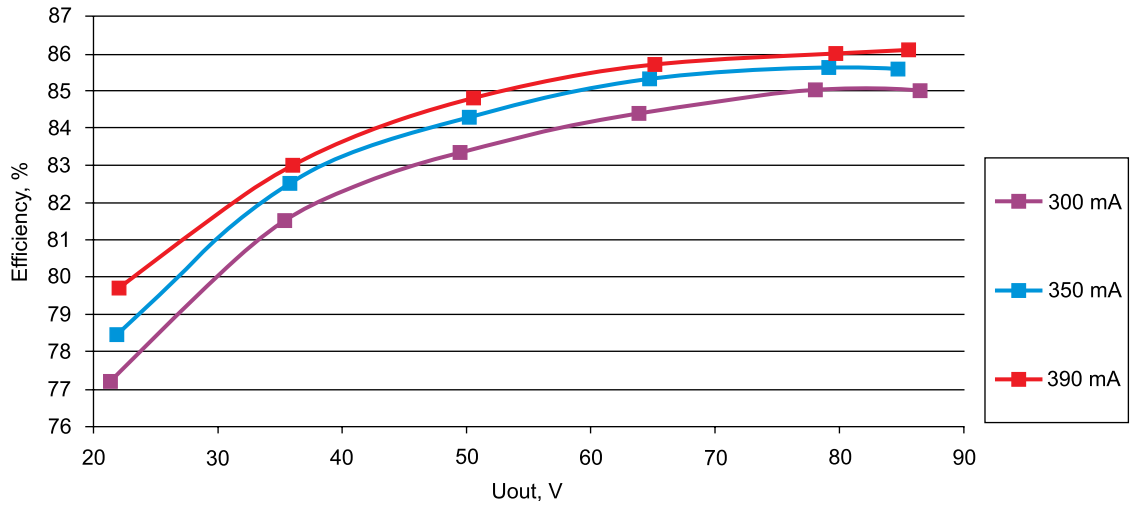
	LED Driver\Specification	30-300T IP20.B1.1.2.1.0.1.1	30-350T IP20B1.1.2.1.0.1.1	30-375T IP20.B1.1.2.1.0.1.1	30-390T IP20.B1.1.2.1.0.1.1
Output parameters	Output current	0.30 A ±5%	0.35 A ±5%	0.375 A ±5%	0.39 A ±5%
	Admissible output voltage range	28 V - 90 V	28 V - 85 V		
	Output current ripple	<3 mA			
	Pulsations of luminos flux	<1%			
	Turn-on time	1.3 sec			
	Max output power	27 W	30 W	32 W	33 W
Input parameters	Max Input power	31 W	34 W	36 W	37 W
	Supply voltage	176V - 264V AC / 250V - 370V DC			
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC			
	Power factor corrector	yes			
	Frequency range	45 Hz - 65 Hz			
	Power factor[2]	~ 0,96	~ 0,97		
	Efficiency[2]	85%	~ 87%		
	Nominal AC current	0.16 A	0.18 A		
	Inrush current	0.3 A max			
	Leakage current	<0.7 mA			
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011			
Protection	Over voltage	restores automatically			
	Output	> 108 V	> 86 V	> 90 V	>108 V
	Short circuit protection	restores automatically			
Operating conditions	Ambient tempereture	–40 °C to +50 °C			
	Humidity	<95%, RH non-condencing			
	Vibratory loads, max	0.5-35 Hz, 5m/sec^2, 30 min			
	Connection type	detachable terminal blocks			
Safety	Galvanic isolation	yes			
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1,5 kV AC			
	Isolation resistance (between live parts and body)	>200 MOhms			
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013			
Dimensions	Dimension (LxWxH), mm	202×30×27			
	Packing	0.152 kg/piece; 3.4 kg/0.009 m^3; 50 pcs.; 298x143x205mm (LxWxH)			
Others	Storage conditions	–60 °C to +85 °C			
	Lifetime	60000 h			
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date			

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed
2 - see corresponding diagrammes Derating may be needed under low input voltage. Please check the static characteristics for more details.
LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

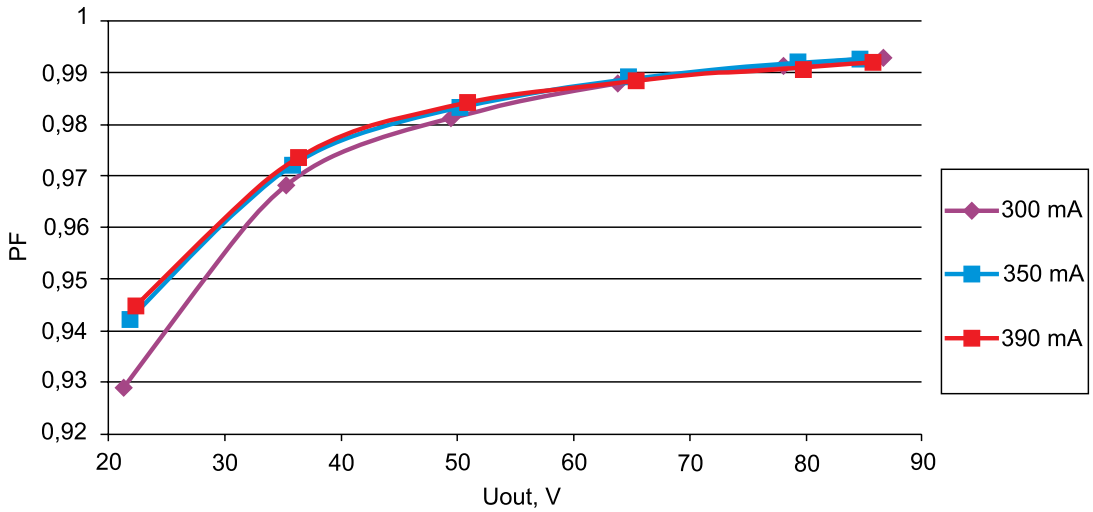
General Block Diagram of LED Drivers up to 60W



Efficiency vs load



Power Factor Characteristic



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Constant Current LED drivers 30-300TD (220-300), 30-350TA (300-390)

- Eyes friendly product. Pulsations of a luminous flux: ~0,1 %
- A narrow case "Invisible being" is ideal for office lights
- An universal driver with an adjustable or setting output current
- The galvanic isolation provides electrical safety of the light
- Conformity to EMC standard requirements
- Efficiency: ~ 90 %; PF: ~ 0,98
- Conformity to standards on harmonics of power voltage
- Environment operating conditions: +50 ^{0}C — 40 ^{0}C
- 5 stages of quality control by manufacture:
  from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- 3 years warranty

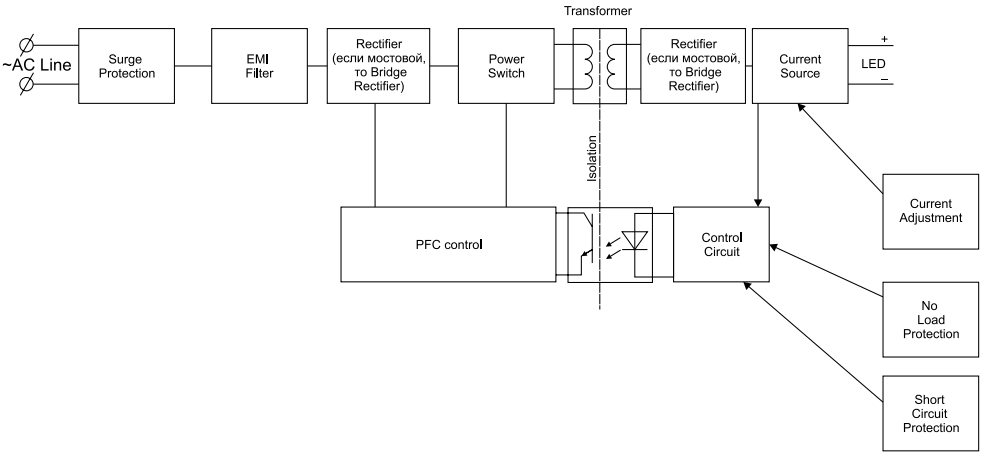
	LED Driver\Specification	30-300TD (220-300) IP20.B1.1.2.1.0.1.1	30-350TA (300-390) IP20.B1.1.2.1.0.1.1
Output parameters	Output current	0.22-0.30 A ±5% discrete interval 10 mA	0.30-0.39 A ±5%
	Admissible output voltage range	30 V -105 V	28 V — 85 V
	Output current ripple	<3 mA	
	Pulsations of luminos flux	<1%	
	Turn-on time	1.3 sec	
	Max output power	30 W	33 W
Input parameters	Max Input power	35 W	38 W
	Supply voltage	176V - 264V AC / 250V - 370V DC	
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC	
	Power factor corrector	yes	
	Frequency range	45 Hz — 65 Hz	
	Power factor[2]	~ 0,98	~ 0,97
	Efficiency[2]	~ 86%	~ 87%
	Nominal AC current	0.18 A	
	Inrush current	<0.3 A max	
	Leakage current	<0.7 mA	
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011	
Protection	Over voltage	restores automatically	
	Output	>108 V	>86 V
	Short circuit protection	restores automatically	
Operating conditions	Ambient tempereture	от -40°C to +50°C	
	Humidity	<95%,RH non-condencing	
	Vibratory loads, max	0.5-35 Hz, 5m/sec^2, 30 min	
	Connection type	detachable terminal blocks	
Safety	Galvanic isolation	yes	
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1,5 kV AC	
	Isolation resistance (between live parts and body)	>200 MOhms	
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013	
Dimensions	Dimension (LxWxH), mm	202x30x27	
	Packing	0.152 kg/piece; 3.4 kg/0.009 m^3; 50 pcs.; 298x143x205mm (LxWxH)	
Others	Storage conditions	–60°C to +85°C	
	Lifetime	60000 h	
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date	

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature

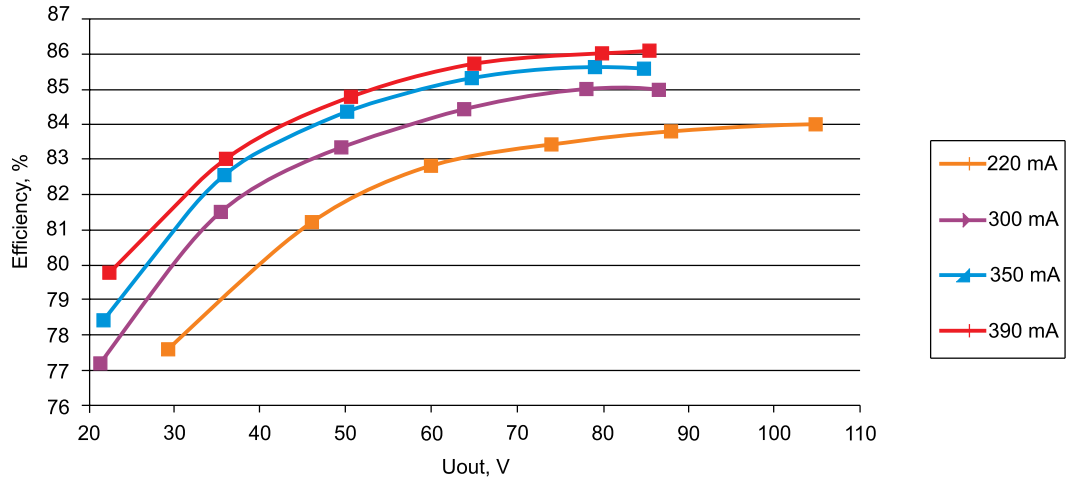
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed

2 - see corresponding diagrammes For the TA version of LED Divers necessary adjustment of its output current is provided by the adjustable resistor. For the version TD of LED Drivers adjustment of its output current is provided discretely by using the DIP-switch located on a PCB. Derating may be needed under low input voltage. Please check the static characteristics for more details. LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

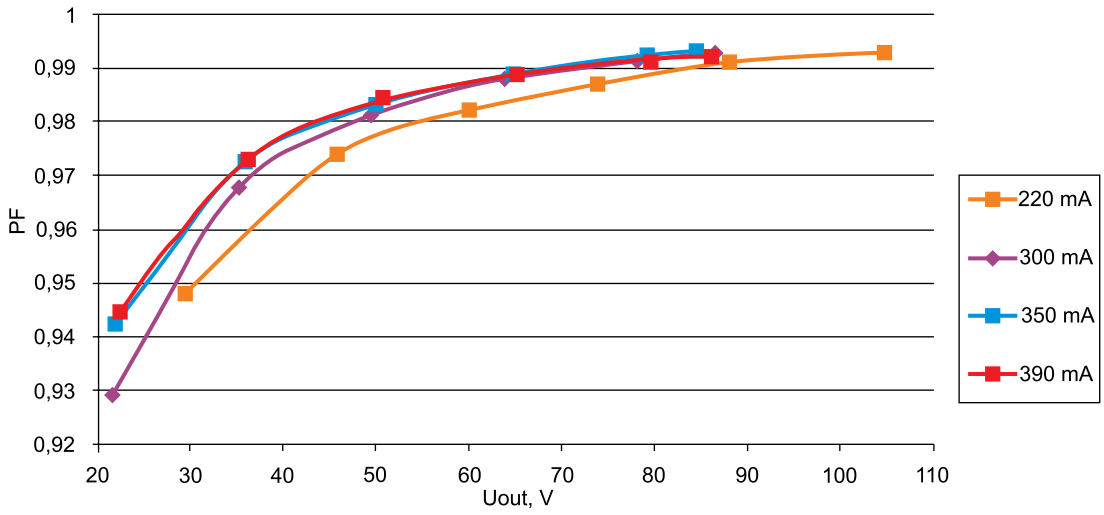
General Block Diagram of LED Drivers up to 60W



Efficiency vs load



Power Factor Characteristic



Argos-Electron Ltd

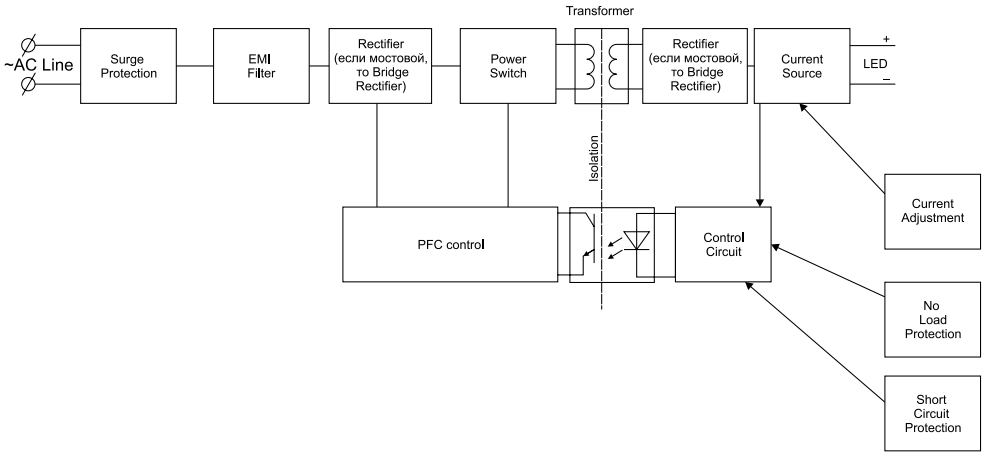
Constant Cutrrent LED drivers 40-540T, 40-700T, 40-700TA (400-700)

- Eyes friendly product. Pulsations of a luminous flux: ~0,1 %
- An universal driver with an adjustable output current
- The galvanic isolation provides electrical safety of the light
- Conformity to EMC standard requirements
- Efficiency: ~ 90 %; PF: ~ 0,98
- Conformity to standards on harmonics of power voltage
- Environment operating conditions: +50 ^{0}C — 40 ^{0}C
- 5 stages of quality control by manufacture:
  from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- 3 years warranty

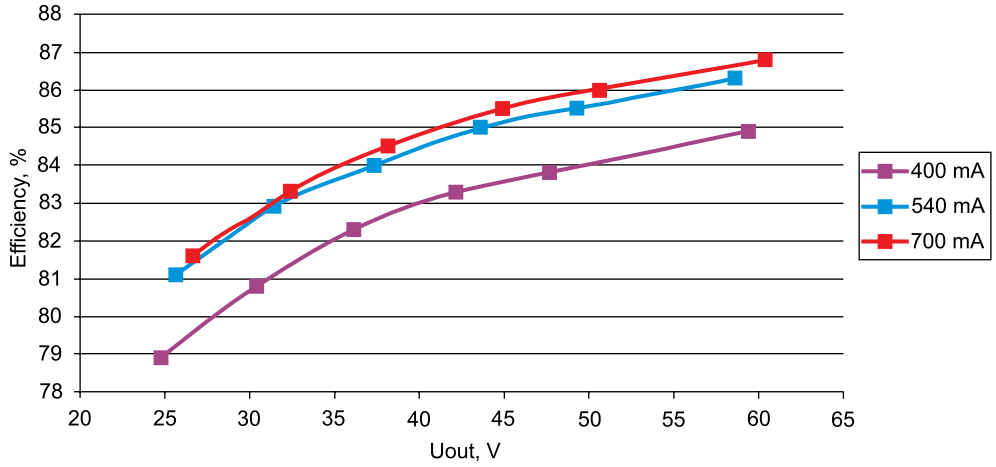
	LED Driver\Specification	40-540T IP20.A1.1.2.1.0.1.1	40-700T IP20.A1.1.2.1.0.1.1	40-700TA (400-700) IP20.A1.1.2.1.0.1.1
Output parameters	Output current	0.54 A ±5%	0.7 A ±5%	0.4-0.7 A ±5%
	Admissible output voltage range	28 V - 60 V		
	Output current ripple	<7 mA		
	Pulsations of luminos flux	<1%		
	Turn-on time	1.4 sec		
	Max output power	34 W	42 W	
Input parameters	Max Input power	38 W	47 W	47 W
	Supply voltage	176V - 264V AC / 250V - 370V DC		
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC		
	Power factor corrector	yes		
	Frequency range	45 Hz - 65 Hz		
	Power factor[2]	~ 0.98		
	Efficiency[2]	~ 88%		
	Nominal AC current	0.220 A		
	Inrush current	<0.4 A max		
	Leakage current	<0.7 mA		
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011		
Protection	Over voltage	restores automatically		
	Output	>62 V		
	Short circuit protection	restores automatically		
Operating conditions	Ambient tempereture	–40°C to +50°C		
	Humidity	<95%,RH non-condencing		
	Vibratory loads, max	0.5-35 Hz, 5m/sec^2, 30 min		
	Connection type	detachable terminal blocks		
Safety	Galvanic isolation	yes		
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC		
	Isolation resistance (between live parts and body)	>200 MOhms		
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013		
Dimensions	Dimension (LxWxH), mm	202x40x27		
	Packing	0,202 kg/piece; 10,3 kg/0,012 m^3; 50 pcs.; 205x210x296mm (LxWxH)		
Others	Storage conditions	–60 °C to +85 °C		
	Lifetime	60000 h		
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date		

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 ^{0}C of ambient temperature
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed
2 - see corresponding diagrammes For the TA version of LED Divers necessary adjustment of its output current is provided by the adjustable resistor.
Derating may be needed under low input voltage. Please check the static characteristics for more details.
LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

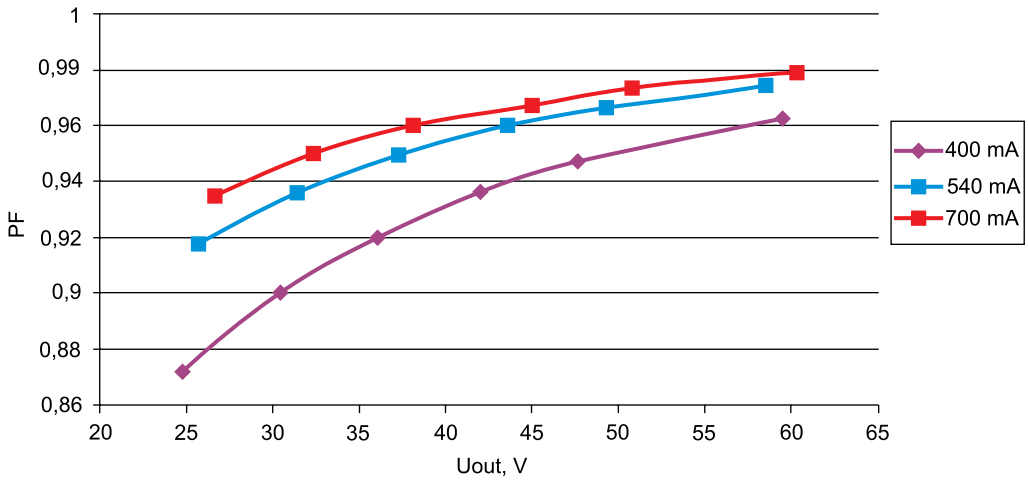
General Block Diagram of LED Drivers up to 60W



Efficiency vs load



Power Factor Characteristic



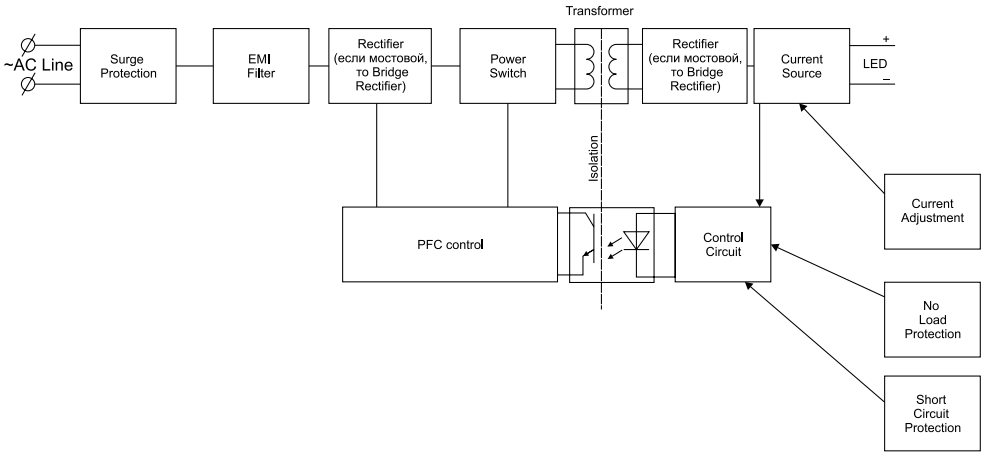
Constant Current LED drivers 50-240T, 50-280T, 50-300T, 50-350T

- Eyes friendly product. Pulsations of a luminous flux: ~0,1 %
- An universal driver with an adjustable output current
- The galvanic isolation provides electrical safety of the light
- Conformity to EMC standard requirements
- Efficiency: ~ 90 %; PF: ~ 0,98
- Conformity to standards on harmonics of power voltage
- Environment operating conditions: +50 ^{0}C - 40 ^{0}C
- 5 stages of quality control by manufacture:
  from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- 3 years warranty

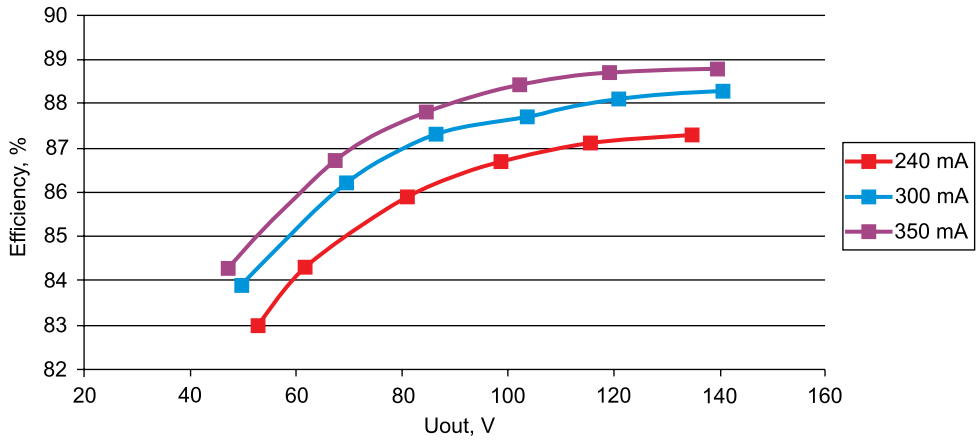
	LED Driver\Specification	50-240T IP20.A1.1.2.1.0.1.1	50-280T IP20.A1.1.2.1.0.1.1	50-300T IP20.A1.1.2.1.0.1.1	50-350T IP20.A1.1.2.1.0.1.1
Output parameters	Output current	0.24 A ±5%	0.28 A ±5%	0.30 A ±5%	0.35 A ±5%
	Admissible output voltage range	50 V - 140 V			
	Output current ripple	<3 mA			
	Pulsations of luminos flux	<1%			
	Turn-on time	1.4 sec			
	Max output power	34 W	40 W	42 W	50 W
Input parameters	Max Input power	39 W	45 W	47 W	56 W
	Supply voltage	176V - 264V AC / 250V - 370V DC			
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC			
	Power factor corrector	yes			
	Frequency range	45 Hz - 65 Hz			
	Power factor[2]	~0.97		~0.98	
	Efficiency[2]	~ 87%		~ 89%	
	Nominal AC current	0.22 A			0.25 A
	Inrush current	<0.53 A max			
	Leakage current	<0.7 mA			
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011			
Protection	Over voltage	restores automatically			
	Output	> 145 V		>145 V	
	Short circuit protection	restores automatically			
Operating conditions	Ambient tempereture	–40°C to +50°C			
	Humidity	<95%,RH non-condencing			
	Vibratory loads, max	0.5-35 Hz, 5m/sec^2, 30 min			
	Connection type	detachable terminal blocks			
Safety	Galvanic isolation	yes			
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC			
	Isolation resistance (between live parts and body)	>200 MOhms			
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and TY 3461-003-609440703-2013			
Dimensions	Dimension (LxWxH), mm	202x40x27			
	Packing	0.202 kg/piece; 10.3 kg/0.012 m^3; 50 pcs.; 205x210x296mm (LxWxH)			
Others	Storage conditions	–60°C to +85°C			
	Lifetime	60000 h			
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date			

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 ^{0}C of ambient temperature
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed
2 - see corresponding diagrammes Derating may be needed under low input voltage. Please check the static characteristics for more details.
LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

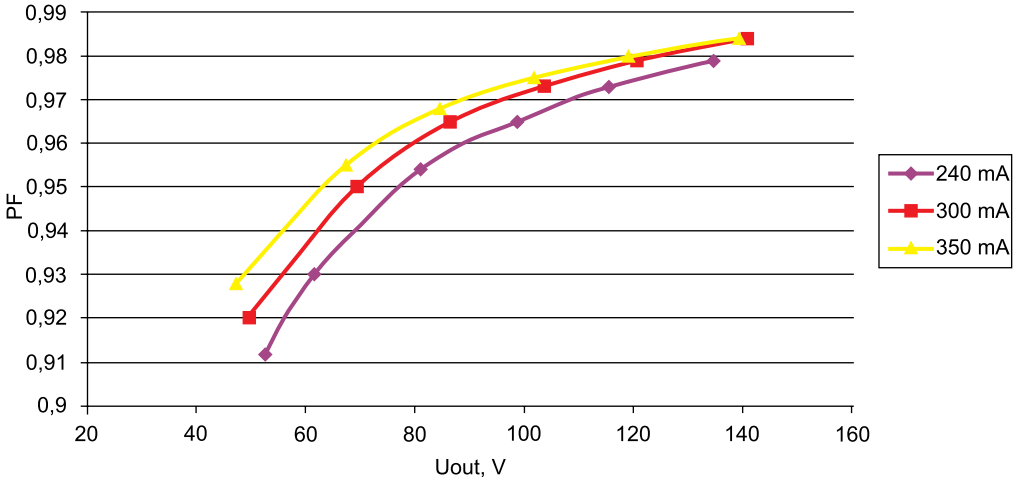
General Block Diagram of LED Drivers up to 60W



Efficiency vs load



Power Factor Characteristic



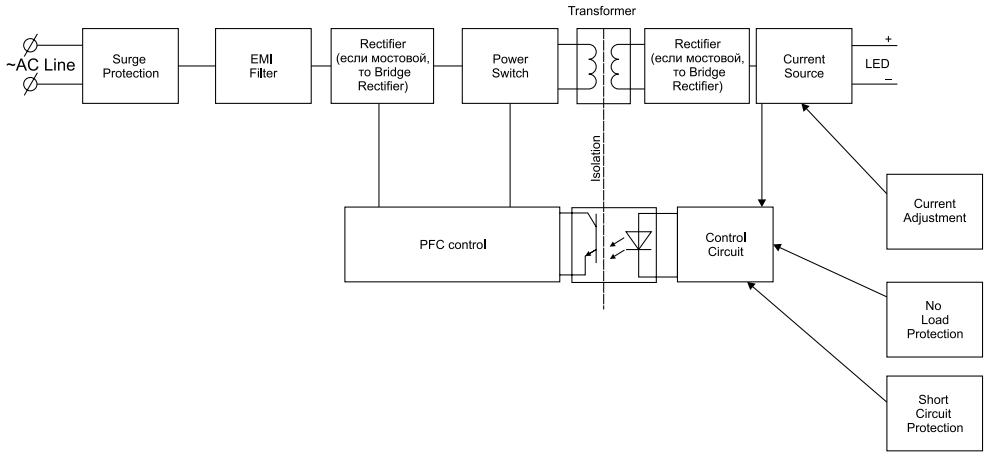
Constant Current LED drivers 50-370T, 50-390T

- Eyes friendly product. Pulsations of a luminous flux: ~0,1 %
- An universal driver with an adjustable output current
- The galvanic isolation provides electrical safety of the light
- Conformity to EMC standard requirements
- Efficiency: ~ 90 %; PF: ~ 0,98
- Conformity to standards on harmonics of power voltage
- Environment operating conditions: +50 ^{0}C - 40 ^{0}C
- 5 stages of quality control by manufacture:
  from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- 3 years warranty

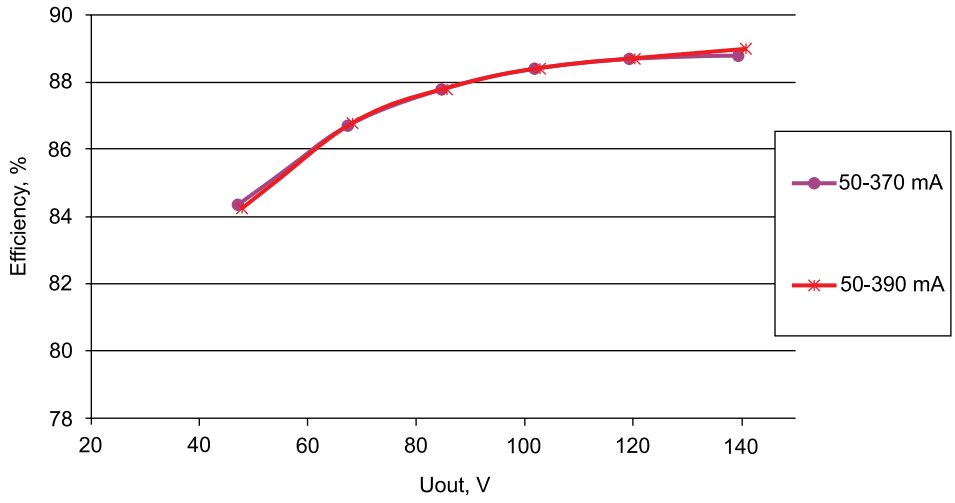
	LED Driver\Specification	50-370T IP 20.A1.1.2.1.0.1.1	50-390T IP20.A1.2.1.1.0.1.1
Output parameters	Output current	0.37 A ±5%	0.39 A ±5%
	Admissible output voltage range	50 V – 140 V	
	Output current ripple	<3 mA	
	Pulsations of luminos flux	<1%	
	Turn-on time	1.4 s	
	Max output power	52 W	54 W
Input parameters	Max Input power	58 W	60 W
	Supply voltage	176 ~ 264V AC / 250 ~ 370V DC	
	Supply voltage extreme range[1]	150 ~ 280V AC / 250 ~ 394V DC	
	Power factor corrector	yes	
	Frequency range	45 ~ 65 Hz	
	Power factor[2]	~0.98	
	Efficiency[2]	~ 89%	
	Nominal AC current	0.27 A	0.28 A
	Inrush current	0.53 A max	
	Leakage current	<0.7 mA	
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011	
Protection	Over voltage	restores automatically	
	Output	> 145 V DC	
	Short circuit protection	restores automatically	
Operating conditions	Ambient tempereture	-40 ^{0}C to +50 ^{0}C	
	Humidity	<95%,RH non-condencing	
	Vibratory loads, max	0.5 Hz – 35 Hz, 5m/sec^2, 30 min	
	Connection type	detachable terminal blocks	
Safety	Galvanic isolation	yes	
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC	
	Isolation resistance (between live parts and body)	>200 MOhms	
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013	
Dimensions	Dimension (LxWxH), mm	202x40x27	
	Packing	0.202 kg/piece; 10.3 kG/0.012 m^3; 50 pcs.; 205x210x296mm (LxWxH)	
Others	Storage conditions	–60 °C to +85 °C	
	Lifetime	60000 h min	
	Manufacturer's warranty	3 years since the date of comissioning, but no more then 4 years since the date of delivery	

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 ^{0}C of ambient temperature
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed
2 - see corresponding diagrammes Derating may be needed under low input voltage. Please check the static characteristics for more details.
LED driver is considered as a component that will be operated in combination with a final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

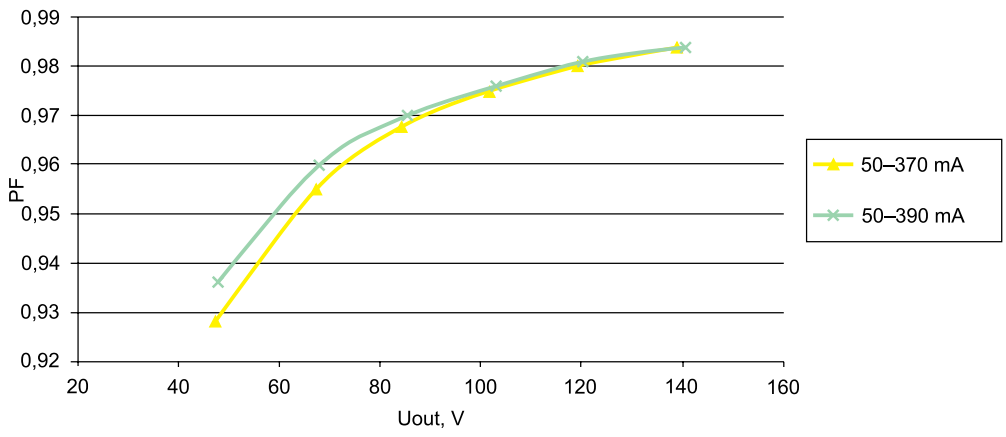
General Block Diagram of LED Drivers up to 60W



Efficiency vs load



Power Factor Characteristic



Constant Current LED drivers 50-350TA(240-360), 50-350TA(300-390), 50-350TD(240-390)

- Eyes friendly product. Pulsations of a luminous flux: ~0,1 %
- An universal driver with an adjustable output current
- The galvanic isolation provides electrical safety of the light
- Conformity to EMC standard requirements
- Efficiency: ~ 90 %; PF: ~ 0,98
- Conformity to standards on harmonics of power voltage
- Environment operating conditions: +50 °C - 40 °C
- 5 stages of quality control by manufacture:
  from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- 3 years warranty

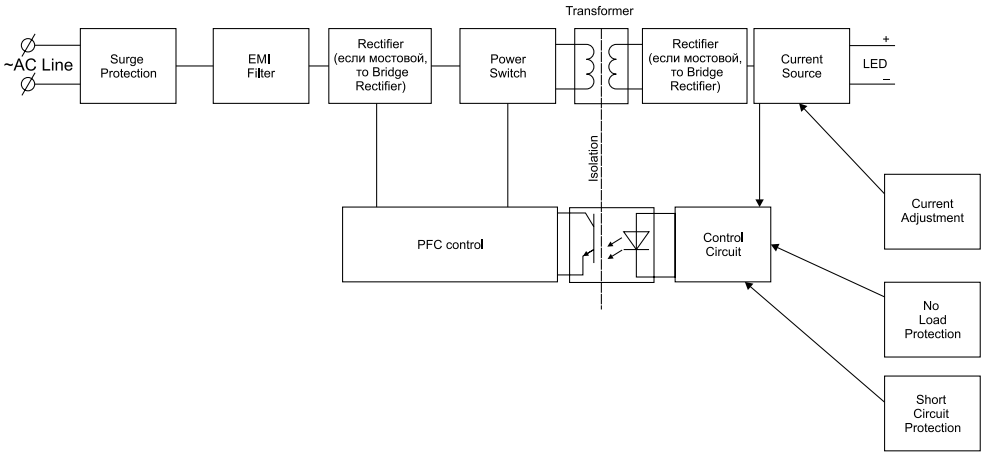
	LED Driver\Specification	50-350TA(240-360) IP20.A1.1.2.1.0.1.1	50-350TA(300-390) IP20.A1.1.2.1.0.1.1	50-350TD(240-390) IP20.A1.1.2.1.0.1.1
Output parameters	Output current	0.24 A ~ 0.36 A ±5%	0.3 A ~ 0.39 A ±5%	240 mA, 255 mA, 270 mA, 300 mA, 330 mA, 315 mA, 360 mA, 375 mA, 390 mA ±5%
	Admissible output voltage range	50 V – 147 V	50 V – 140 V	
	Output current ripple	<3 mA		
	Pulsations of luminos flux	<1%		
	Turn-on time	1.4 sec		
	Max output power	54 W		
Input parameters	Max Input power	60 W		
	Supply voltage	176 ~ 264V AC / 250 ~ 370V DC		
	Supply voltage extreme range[1]	150 ~ 280V AC / 250 ~ 394V DC		
	Power factor corrector	yes		
	Frequency range	45 Hz – 65 Hz		
	Power factor[2]	~ 0.98		
	Efficiency[2]	~ 89%		
	Nominal AC current	0.28 A		
	Inrush current	0.53 A max		
	Leakage current	<0.7 mA		
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011		
Protection	Over voltage	restores automatically		
	Output	> 150 V DC	> 145 V DC	
	Short circuit protection	restores automatically		
Operating conditions	Ambient tempereture	–40 °C to +50 °C		
	Humidity	<95%, RH non-condencing		
	Vibratory loads, max	0.5-35 Hz, 5m/sec^2, 30 min		
	Connection type	detachable terminal blocks		
Safety	Galvanic isolation	yes		
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC		
	Isolation resistance (between live parts and body)	>200 MOhms		
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013		
Dimensions	Dimension (LxWxH), mm	202×40×27		
	Packing	0.202 kg/piece; 10.3 kg/0.012 m^3; 50 pcs.; 205x210x296mm (LxWxH)		
Others	Storage conditions	–60 °C to +85 °C		
	Lifetime	60000 h min		
	Manufacturer's warranty	3 years since the date of comissioning, but no more then 4 years since the date of delivery		

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature

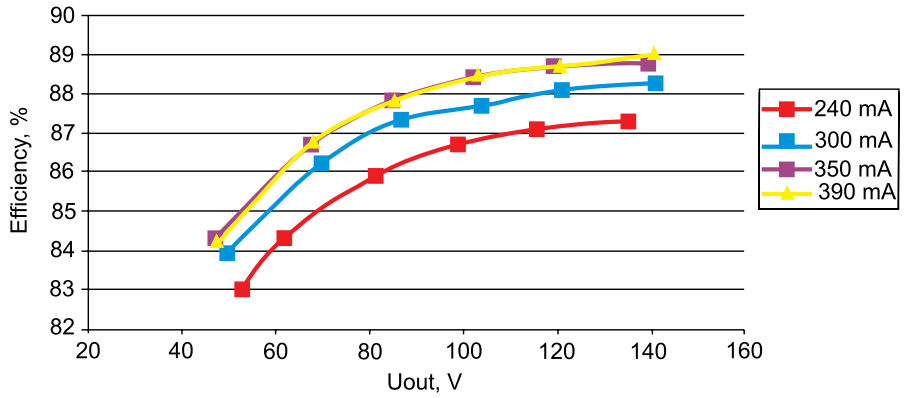
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed

2 - see corresponding diagrammes For the TA version of LED Divers necessary adjustment of its output current is provided by the adjustable resistor. For the version TD of LED Drivers adjustment of its output current is provided discretely by using the DIP-switch located on a PCB. Derating may be needed under low input voltage. Please check the static characteristics for more details. LED driver is considered as a component that will be operated in combination with a final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

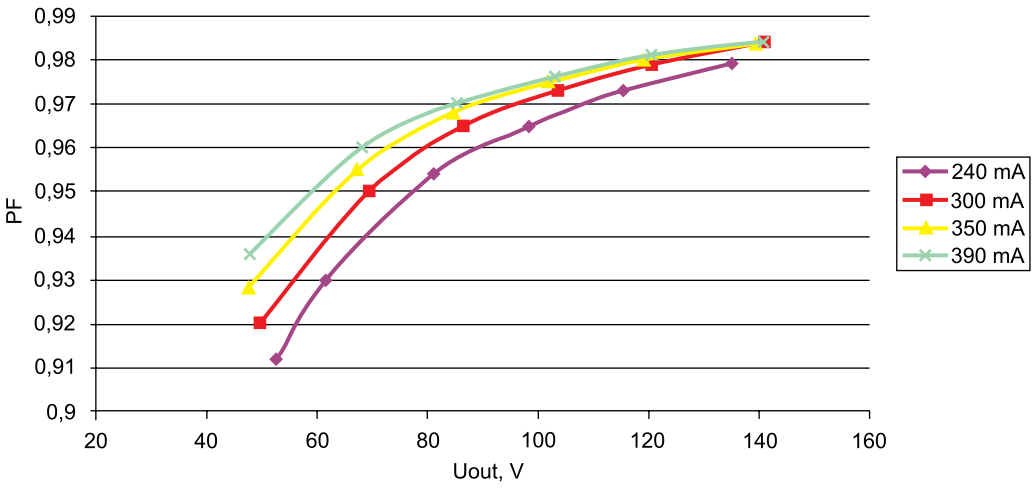
General Block Diagram of LED Drivers up to 60W



Efficiency vs load



Power Factor Characteristic



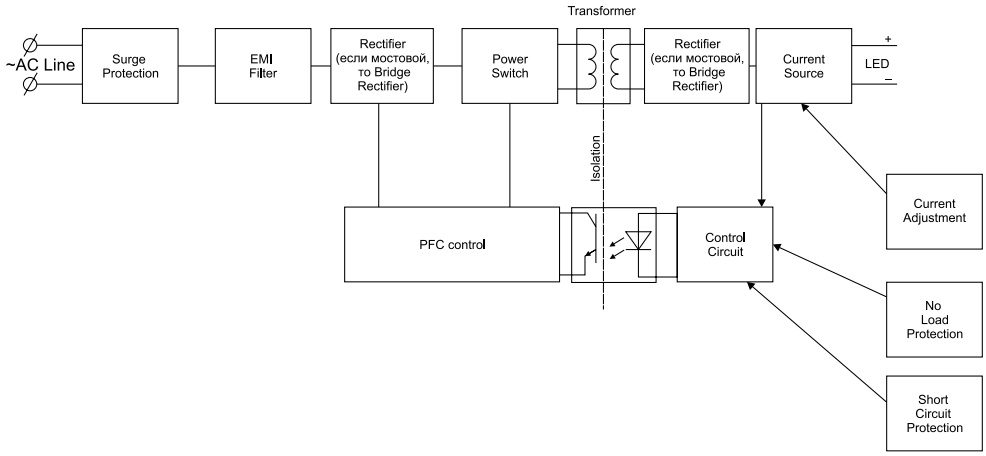
Constant Current LED drivers 60-700T, 60-700TA(400-700), 60-700TD(400-700)

- Eyes friendly product. Pulsations of a luminous flux: ~0,1 %
- An universal driver with an adjustable output current
- The galvanic isolation provides electrical safety of the light
- Conformity to EMC standard requirements
- Efficiency: ~ 90 %; PF ~ 0,98
- Conformity to standards on harmonics of power voltage
- Environment operating conditions: +50ºC - 40ºC
- 5 stages of quality control by manufacture: from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- Quality is confirmed with the declaration on conformity of the Customs Union
- 3 years warranty

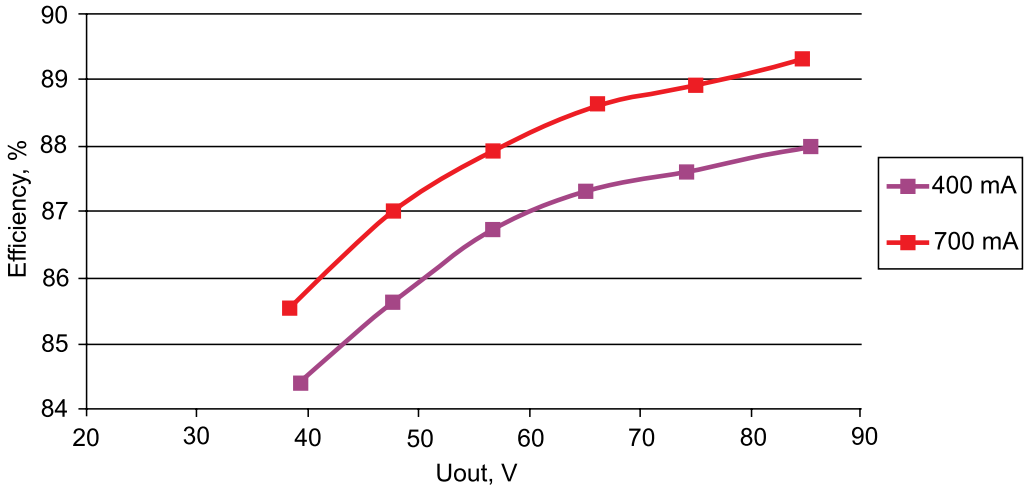
	LED Driver\Specification	60-700T IP20.A1.1.2.1.0.1.1	60-700TA(400-700) IP20.A1.1.2.1.0.1.1	60-700TD(400-700) IP20.A1.1.2.1.0.1.1
Output parameters	Output current	0.7 A ±5%	0.4 ~ 0.7 A ±5%	0.4 ~ 0.7 A ±5% discrete interval 50 mA
	Admissible output voltage range	40 V – 85 V		
	Output current ripple	<7 mA		
	Pulsations of luminos flux	<1%		
	Turn-on time	1.4 sec		
	Max output power	60 W		
Input parameters	Max Input power	68 W	68 W	68 W
	Supply voltage	176 ~ 264V AC / 250 ~ 370V DC		
	Supply voltage extreme range[1]	150 ~ 280V AC / 250 ~ 394V DC		
	Power factor corrector	yes		
	Frequency range	45 ~ 65 Hz		
	Power factor[2]	~0.98		
	Efficiency[2]	~ 89%		
	Nominal AC current	0.3 A		
	Inrush current	<0.5 A max		
	Leakage current	<0.7 mA		
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011		
Protection	Over voltage	restores automatically		
	Output	> 86 V DC		
	Short circuit protection	restores automatically		
Operating conditions	Ambient tempereture	–40 °C to 50 °C		
	Humidity	<95%, RH non-condencing		
	Vibratory loads, max	0.5 — 35 Hz, 5m/sec^2, 30 min		
	Connection type	detachable terminal blocks		
Safety	Galvanic isolation	yes		
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC		
	Isolation resistance (between live parts and body)	>200 MOhms		
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013		
Dimensions	Dimension (LxWxH), mm	202x40x27		
	Packing	0.218 kg/piece; 11.1 kg/0.012 m^3; 50 pcs.; 205x210x296mm (LxWxH)		
Others	Storage conditions	–60 °C to +85 °C		
	Lifetime	60000 h min		
	Manufacturer's warranty	3 years since the date of comissioning, but no more then 4 years since the date of delivery		

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed
2 - see corresponding diagrammes For the TA version of LED Divers necessary adjustment of its output current is provided by the adjustable resistor. For the version TD of LED Drivers adjustment of its output current is provided discretely by using the DIP-switch located on a PCB. Derating may be needed under low input voltage. Please check the static characteristics for more details.
LED driver is considered as a component that will be operated in combination with a final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

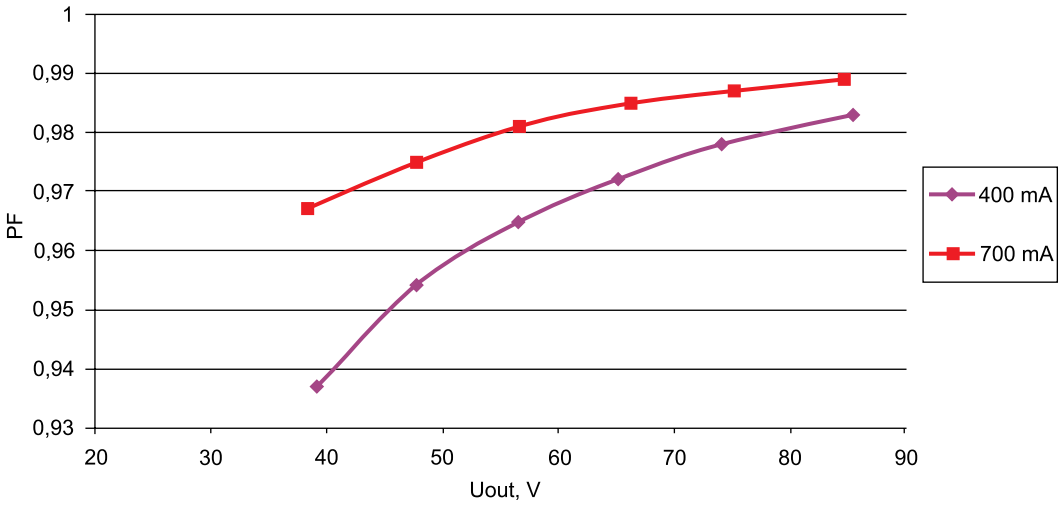
General Block Diagram of LED Drivers up to 60W



Efficiency vs load



Power Factor Characteristic



Argos-Electron Ltd

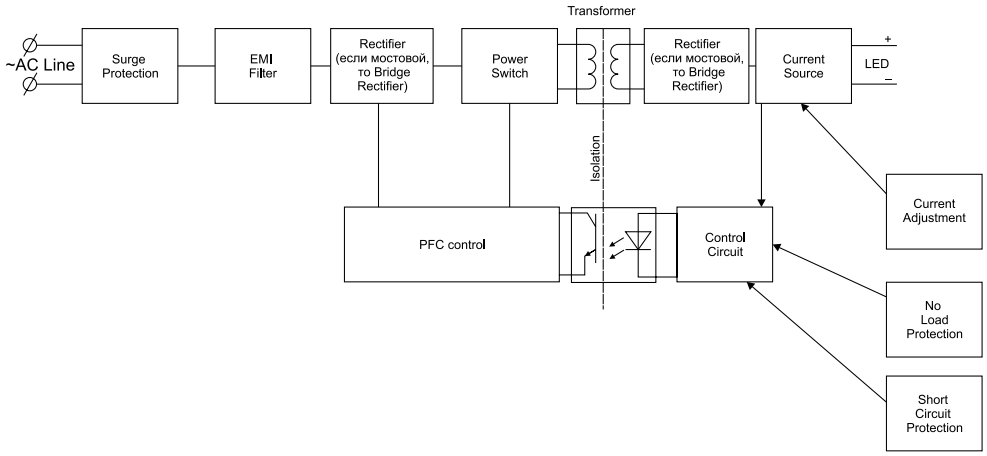
Constant Current LED drivers IP67 30-350T, 40-700T, 50-350T 60-700T

- Industrial
- Environment operating conditions: +50 °C - 40 °C, +80 °Cmax
- Eyes friendly product. Pulsations of a luminous flux of ~0,1 %
- The parallel connection of LED drivers increases twice an output power and a current
- The galvanic isolation provides electrical safety of the light
- Conformity to EMC standard requirements
- Efficiency: ~ 90 %; PF: ~ 0,98
- Conformity to standards on harmonics of power voltage
- 5 stages of quality control by manufacture:
- from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- Quality is confirmed with the declaration on conformity of the Customs Union
- 3 years warranty

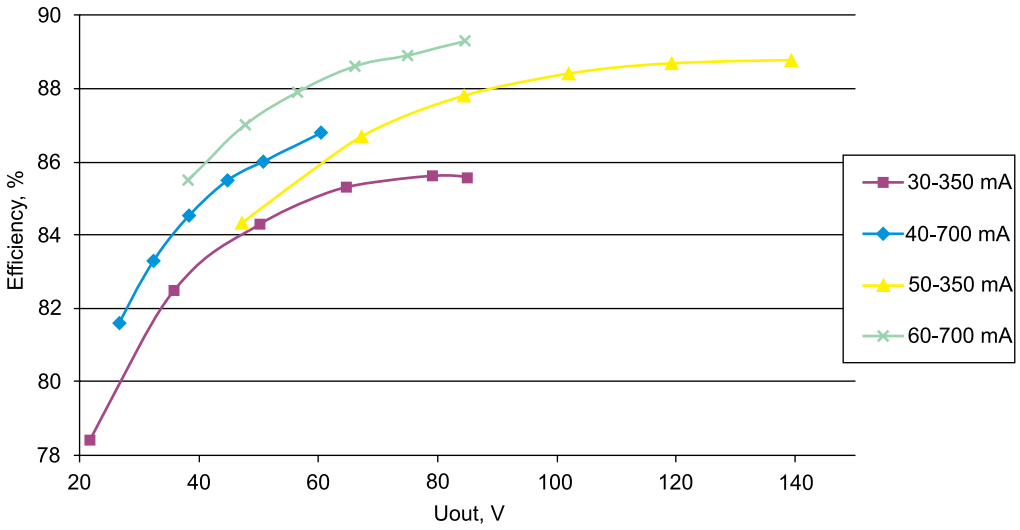
	LED Driver\Specification	30-350T IP67.E1.3.2.1.0.1.1	40-700T IP67.E1.3.2.1.0.1.1	50-350T IP67.E1.3.2.1.0.1.1	60-700T IP67.E1.3.2.1.0.1.1
Output parameters	Output current	0.35 A ±5%	0.7 A ±5%	0.35 A ±5%	0.7 A ±5%
	Admissible output voltage range	28 V - 85 V	28 V - 60 V	50 V - 140 V	50 V - 85 V
	Output current ripple	<3 mA	<7 mA	<3 mA	<7 mA
	Pulsations of luminos flux	<1%			
	Turn-on time	1.3 sec	1.4 sec		
	Max output power	30 W	40 W	50 W	60 W
Input parameters	Max Input power	35 W	44 W	56 W	68 W
	Supply voltage	176V - 264V AC / 250V - 370V DC			
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC			
	Power factor corrector	yes			
	Frequency range	45 Hz - 65 Hz			
	Power factor[2]	~ 0.97	~ 0.98		
	Efficiency[2]	~ 87%	~ 88%	~ 89%	
	Nominal AC current	0.18 A	0.22 A	0.25 A	0.3 A
	Inrush current	<0.3 A max	<0.4 A max	<0.53 A max	<0.5 A max
	Leakage current	<0.7 mA			
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011			
Protection	Over voltage	restores automatically			
	Output	>86 V	>62 V	>145 V	>86 V
	Short circuit protection	restores automatically			
Operating conditions	Ambient temperature	-40 °C to +60 °C			
	Humidity	Any			
	Vibratory loads, max	0.5-35 Hz, 5m/sec^2, 30 min			
	Connection type	wires PVC 2x0,75 (opertating temperature to -40˚)			
Safety	Galvanic isolation	yes			
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC			
	Isolation resistance (between live parts and body)	>200 MOhms			
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013			
Dimensions	Dimension (LxWxH), mm	145x40x30			
	Packing	0.288 kg/piece; 14.6 kg; 50 pcs			
Others	Storage conditions	-60°C to +85°C			
	Lifetime	60000 h			
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date			

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed
2 - see corresponding diagrammes Derating may be needed under low input voltage. Please check the static characteristics for more details.
LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

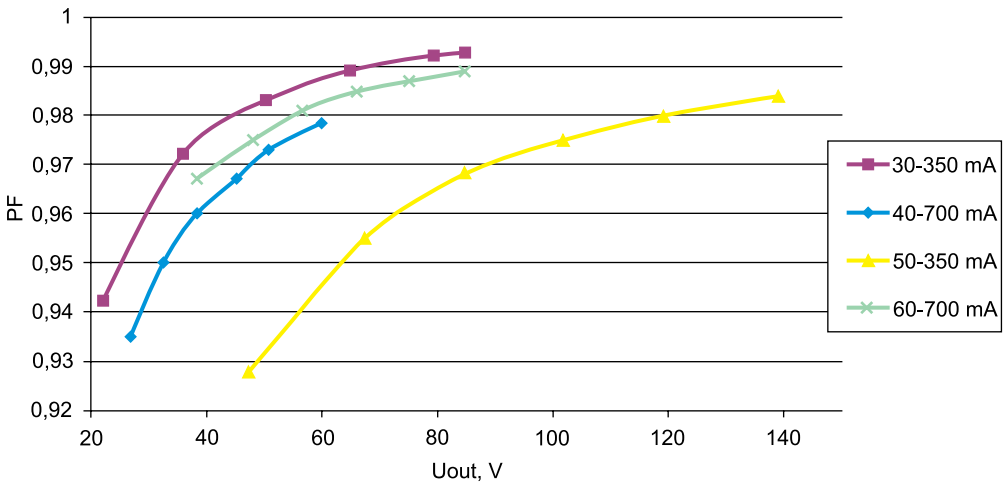
General Block Diagram of LED Drivers up to 60W



Efficiency vs load



Power Factor Characteristic



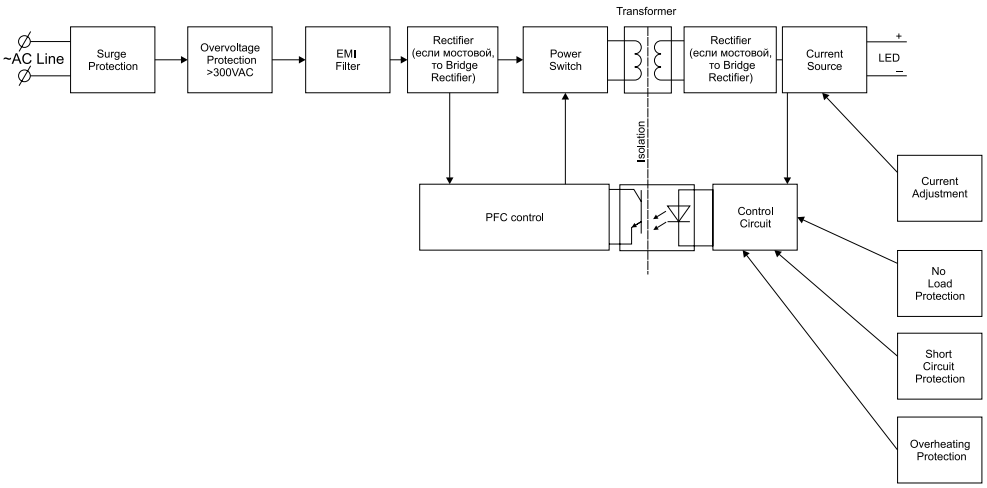
Argos-Electron Ltd

Constant Current LED driver IP67 100-700T

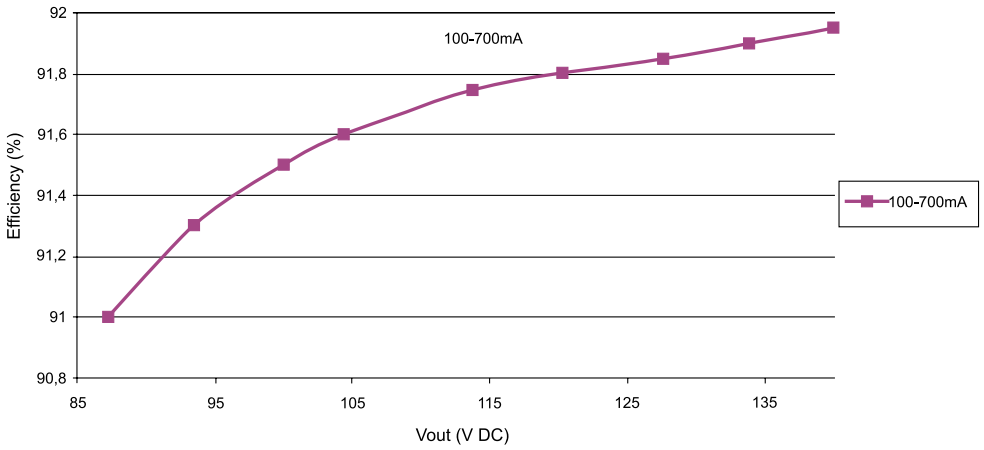
- Outdoor
- Short-time 380 V AC overvoltage protection
- Lightning protection (5kV)
- Thermal shutdown
- Environment operating conditions: +50 ^{0}C - 40 ^{0}C
- Pulsations of a luminous flux: ~0,1 %
- The parallel connection of LED drivers increases twice an output power and a current
- Efficiency: ~ 90 %; PF: ~ 0,98
- Conformity to standards on harmonics of power voltage
- 5 stages of quality control by manufacture:
  from selection of high-quality parts to a full load testing during 12 hours
- MTBF: ~ 60000 hours
- Quality is confirmed with the declaration on conformity of the Customs Union
- 3 years warranty

	LED Driver\Specification	100-700T IP67.D1.3.2.1.0.1.1
Output parameters	Output current	0,7 A ±5%
	Admissible output voltage range	85 V - 140 V
	Output current ripple	<7 mA
	Pulsations of luminos flux	<1%
	Turn-on time	0,9 sec
	Max output power	103 W
Input parameters	Max Input power	112 W
	Supply voltage	176V - 264V AC / 250V - 370V DC
	Supply voltage extreme range[1]	150V - 280V AC / 250V - 394V DC
	Power factor corrector	yes
	Frequency range	45 Hz - 65 Hz
	Power factor[2]	~0,98
	Efficiency[2]	~92%
	Nominal AC current	0,5 A
	Inrush current	<0,8 A max
	Leakage current	<0.7 mA
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011
Protection	Over voltage	restores automatically
	Output	> 145 V
	Short circuit protection	restores automatically
	Overvoltage in the electric	> 280 V, restores automatically
	Lightning protection	3rd class test 5 kW 2.5 kA
	Thermal protection	Operates at +80°C ambient temperature if the surface is heated to +80°C
Operating conditions	Ambient temperature	-40°C to +60°C
	Humidity	any
	Vibratory loads, max	0.5-35 Hz, 5m/c^2, 30 min
	Connection type	Entry - wire 3x0,75 mm^2 length 300 mm. Exit - wire 2x0,75 mm^2 length 300 mm. PVC (opertating temperature to - 40˚C)
Safety	Galvanic isolation	yes
	Withstand voltage (input-output); (input-grounding) (output - grounding)	> 1.5 kW AC
	Isolation resistance (between live parts and body)	>200 MOhms
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013
Dimensions	Dimension (LxWxH), mm	189x64x38 (new size without hermetical input 164x64x38)
	Packing	0.26 kg/piece; 3.9kg/0.009 m^3; 14 pcs.; 205x210x296mm (LxWxH)
Others	Storage conditions	-60 °C to +85 °C
	Lifetime	60000 h
	Manufacturer's warranty	3 years since the date of comissioning, but no more then ≥4 years since the date of delivery date

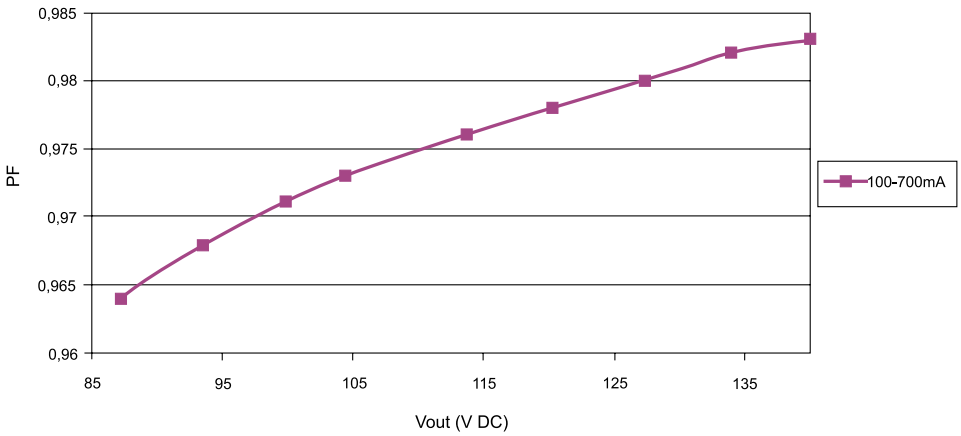
Block Diagram of LED Drivers up to 100W



Efficiency vs load



Power Factor Characteristic



Comments to the table:
All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed.
2 - see corresponding diagrammes The LED driver will be turned on in a burst mode of operation in case if an input AC voltage rose more than 280 V AC. In case if input AC voltage rose more than 350 V AC the LED driver will be switched off. The maximum input AC voltage of the driver is 420 V AC.
Derating may be needed under low input voltage. Please check the static characteristics for more details.
LED driver is considered as a component that will be operated in combination with final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

Dual-mode Operation LED Driver

Dual-mode Operation LED Driver:

1st mode: full power (100% power); 2nd mode: power safe mode or standby mode (~20% of full power).

Power consumption of a light in the power safe mode operation is equal to

P~0.2 Iout * Vout* η

Here:

Iout – output current with tolerance +/-10%;

Vout – output voltage on LEDs;

η – efficient of LED Driver in the power safe mode.

Connection of LED Drivers with power safe (stand-by) mode:

The diagram of connection of drivers is shown on the Figure below.

Output current will be established on its initial setting value if D-terminals are connected to the Line.

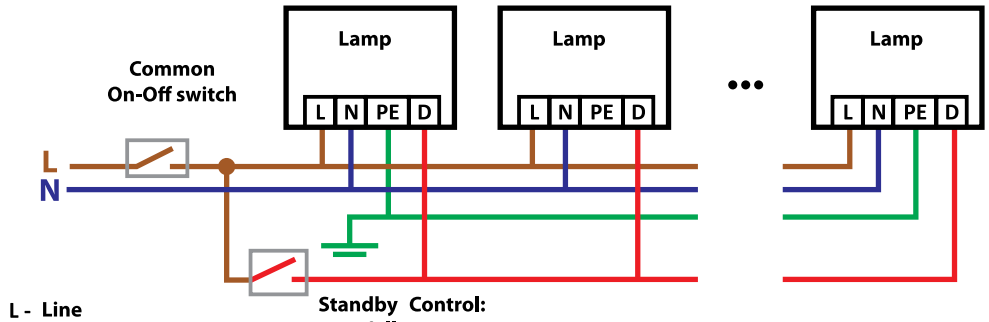
Output current will be decreased in 5 times from its initial setting value if D-terminals are disconnected from the Line. D-line can be disconnected by additional switches, motion detectors or some control circuits etc.

Attention! For LED Drivers with standby mode feature it is necessary to use a load of the LED Driver that in standby mode (in other words its output current will be decreased to 5 times) output voltage should be no less than minimum output voltage for LED Driver of the chosen type.

Control of LED Driver with power safe (standby) mode:

By Motion Detectors. Output contacts of the motion detector are opened if nobody is present indoors. A driver will be in its standby mode and use ~20% power in comparison with its full power condition. Output contacts of the motion detector are closed if somebody comes indoors. A driver will be in its full power condition. A driver will be in its standby mode again if some went away.

By additional switches or control circuits. An additional switch should be connected to the Line. A mode of the operation will be changed by switching directly. It is possible to use one additional switch for all lights. In this case their D-terminals should be combined by using one common wire line (see Figure above).



Full power

Standby mode

Constant Current LED drivers 50-350TI, 60-700TI

	LED Driver\Specification	50-350TI IP20.A1.1.2.1.1.1.1	60-700TI IP20.A.1.1.2.1.1.1.1
Output parameters	Output current: nominal power; Standby mode	0.35 A ±5% 0.07 A ±5%	0.7 A ±5% 0.14 A ±5%
	Admissible output voltage range	50 V — 140 V	40 V — 85 V
	Output current ripple	<3 мА	<7 мА
	Pulsations of luminos flux	<1%	
	Turn-on time	1.4 sec	
	"Max output power: nominal power; Standby mode"	50 W 9.8 W	60 W 11.9 W
Input parameters	"Max Input power: nominal power; Standby mode"	56 W 12 W	65 W 15 W
	Supply voltage range	176 ~ 264 V AC / 250 ~ 370 V DC	
	Supply voltage extreme range[1]	150 ~ 280 V AC / 250 ~ 394 V DC	
	Power factor corrector (PFC)	yes	
	Frequency range	45 Hz — 65 Hz	
	Power factor[2]	~0.98	
	Efficiency[2]	~ 89%	
	Nominal AC current	0.25 A	0.3 A
	Inrush current	<0.53 A max	<0.5 A max
	Leakage current	<0.7 mA	
	EMC	Correspond to EN 55015:2000, IEC 61000-3-2:2005, IEC 61000-3-3:2008, IEC 61547-2011	
Protection	Over voltage	restores automatically	
	Output	> 145 V	> 86 V
	Short circuit protection	restores automatically	
Operating conditions	Ambient tempereture	-40 ^{0}C to +50^{0}C	
	Humidity	<95%,RH non-condencing	
	Vibratory loads, max	0.5 Hz –35 Hz, 5m/sec^2, 30 min	
	Connection type	detachable terminal blocks	
Safety	Galvanic isolation	yes	
	Withstand voltage (input-output); (input-grounding) (output - grounding)	>1.5 kV AC	
	Isolation resistance (between live parts and body)	>200 MOhms	
	Standards on general requirements and safety	IEC 61347-1:2007; IEC 61347-2-13-2011 and ТУ 3461-003-609440703-2013	
Dimensions	Dimension (LxWxH), mm	202x40x27	
	Packing	0.202 kg/piece; 10.3 kg/0.012 m^3; 50 pcs.; 205x210x296mm (LxWxH)	0.218 kg/piece; 11.1 kg/0.012 m^3; 50 pcs.; 205x210x296mm (LxWxH)
Others	Storage conditions	–60 °C to +85 °C	
	Lifetime	60000 h min	
	Manufacturer's warranty	3 years since the date of comissioning, but no more then 4 years since the date of delivery	

All parameters are measured with supply voltage 230 V AC and nominal load under the 25 °C of ambient temperature
1 - Supply voltage range under which the declared chatacteristics of the driver could not be reached, but the operating capacity is guaranteed
2 - see corresponding diagrammes Derating may be needed under low input voltage. Please check the static characteristics for more details.
LED driver is considered as a component that will be operated in combination with a final equipment (lighting). Since EMC performance will be affected by the complete installation, the final eqiupment manufacturers must re-qualify EMC Directive on the complete installation again.

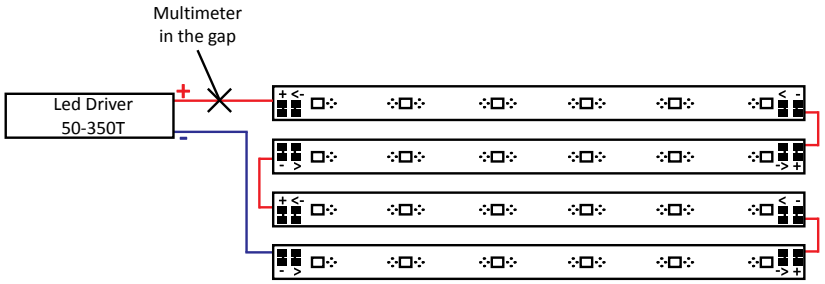
Setup Instructions. Setting of Current.

Setup instructions of current adjustment for Led Drivers with adjustable resistors.

The necessary equipment: the general purpose multimeter with capability of a current measurement up to 1A.

Condition of measurement: a constant current measurement.

1. Disconnect one of potential wires between the driver and a load.
2. Set a multimeter to direct current measurement mode with suitable measurement range.
3. Connect the multimeter according to the Figure.
4. Check of the current level on the display of the multimeter.
5. For increasing of an output current of the driver the rotor of its adjustment resistor should be turned clockwise, otherwise it should be turned counter-clockwise.



Setup instructions of current setting for Led Drivers with a DIP-switches.

A D-type LED driver has four sliders DIP-switch (Fig.1), which is located near output connection terminals of the Led Driver. This switch allows to set output current of the driver discretely depending on their setting.

The bottom position of a switch slider (switch-off) will increase a level of output current and the upper position of a switch slider (switch-on) will decrease a level of output current depending on type of the driver according to table 1.

LST Led Driver 30-300TD (220-300) IP20. B1.1.2.1.0.1.1-488

Slider #				Total Output Current
1	2	3	4	
1	1	1	1	220 mA
1	1	1	0	230 mA
1	1	0	0	240 mA
1	0	1	1	250 mA
1	0	1	0	260 mA
1	0	0	0	270 mA
0	0	1	1	280 mA
0	0	1	0	290 mA
0	0	0	0	300 mA

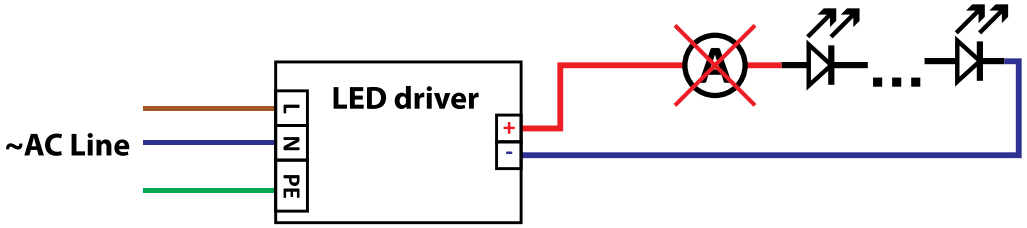
LST Led Driver 50-350TD (240-390) IP20. A1.1.2.1.0.1.1-452

Slider #				Total Output Current
1	2	3	4	
1	1	1	1	240 mA
1	1	1	0	255 mA
1	1	0	0	270 mA
1	0	1	1	300 mA
1	0	1	0	315 mA
1	0	0	0	330 mA
0	0	1	1	360 mA
0	0	1	0	375 mA
0	0	0	0	390 mA

LST Led Driver 60-700TD (400-700) IP20. A1.1.2.1.0.1.1-496

Slider #				Total Output Current
1	2	3	4	
1	1	1	1	400 mA
1	1	1	0	450 mA
1	0	1	1	500 mA
1	0	0	1	550 mA
0	0	1	1	600 mA
0	0	1	0	650 mA
0	0	0	0	700 mA

NOTE: “1” – on position;
“0” – off position

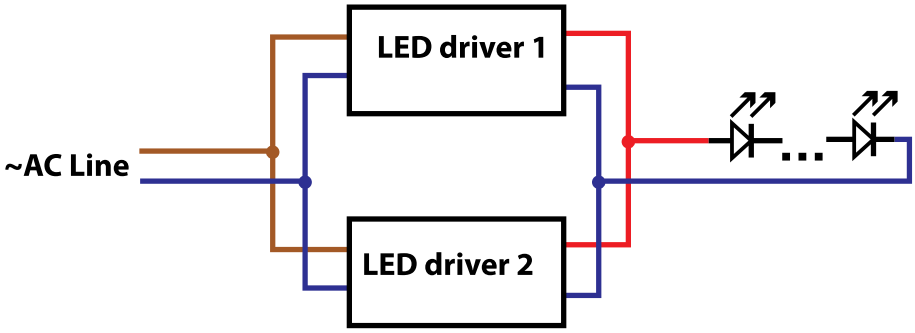


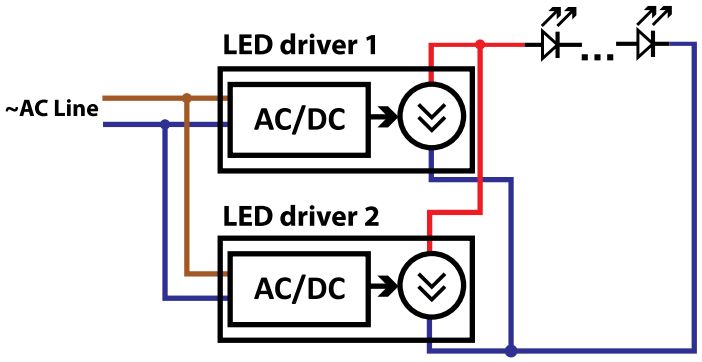
The parallel connection of LED drivers

Possible variants of combinations:

Driver 1	Driver 2	Output power, W	Output current, mA	Output voltage, V DC	
				min	max
LED Driver 40-700T	LED Driver 40-700T	80	1400	28	60
LED Driver 30-350T	LED Driver 60-700T	90	1050	40	85
LED Driver 50-350T	LED Driver 50-350T	100	700	50	140
LED Driver 60-700T	LED Driver 60-700T	120	1400	40	85
LED Driver 50-350T	LED Driver 100-700T	150	1050	85	140
LED Driver 100-700T	LED Driver 100-700T	200	1400	85	140

Connection diagram:





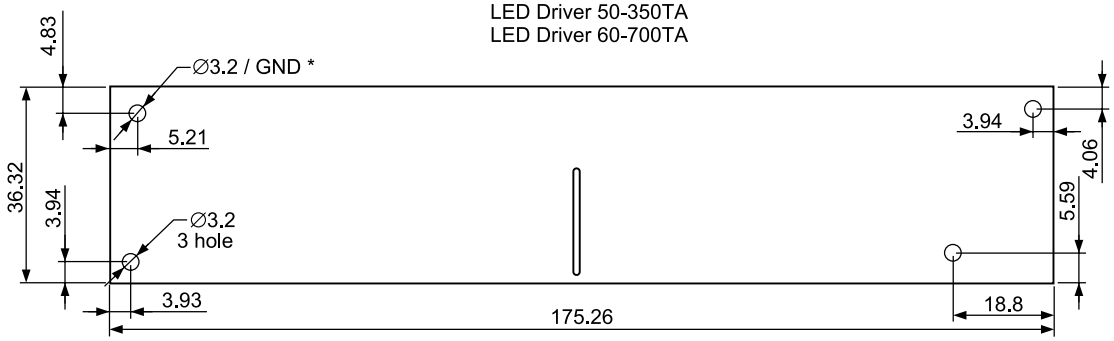
Attention!

Output circuits of drivers are current sources. Connection of drivers should be in parallel only. Connection of drivers in series is strictly prohibited!

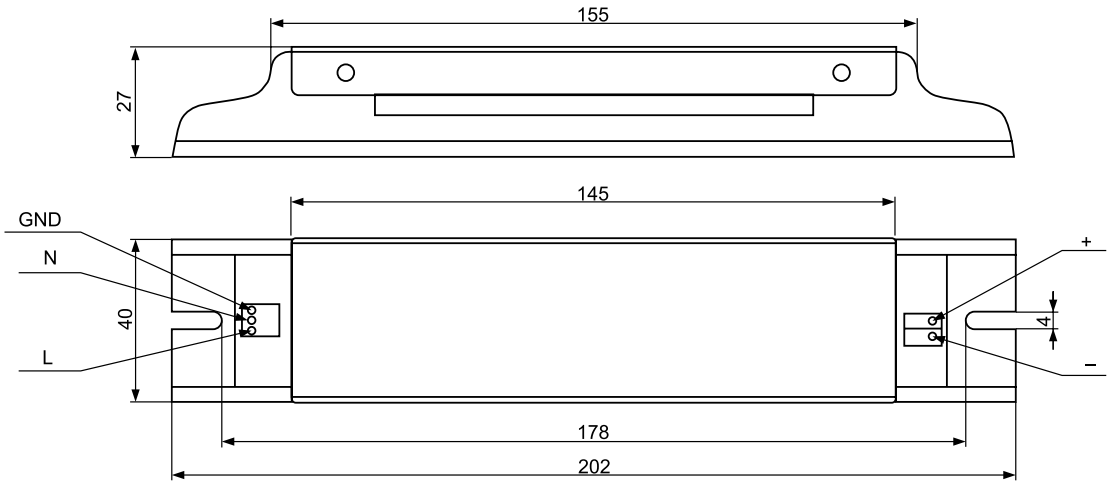
PSB & CASE TYPES

A0

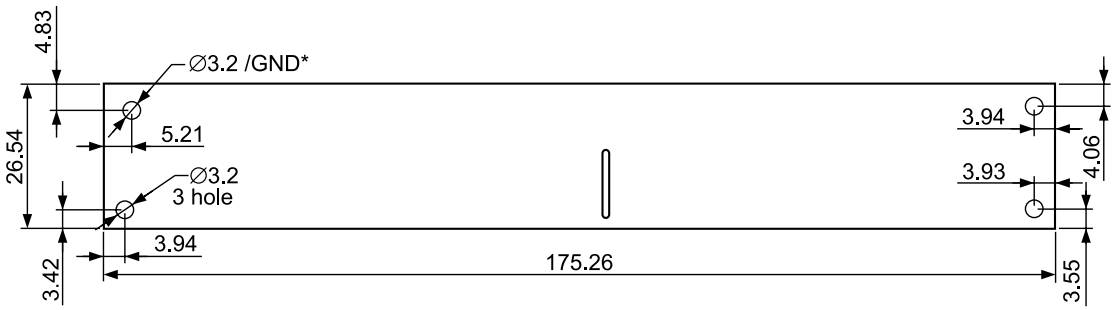
LED Driver 40-700TA
LED Driver 50-350TA
LED Driver 60-700TA



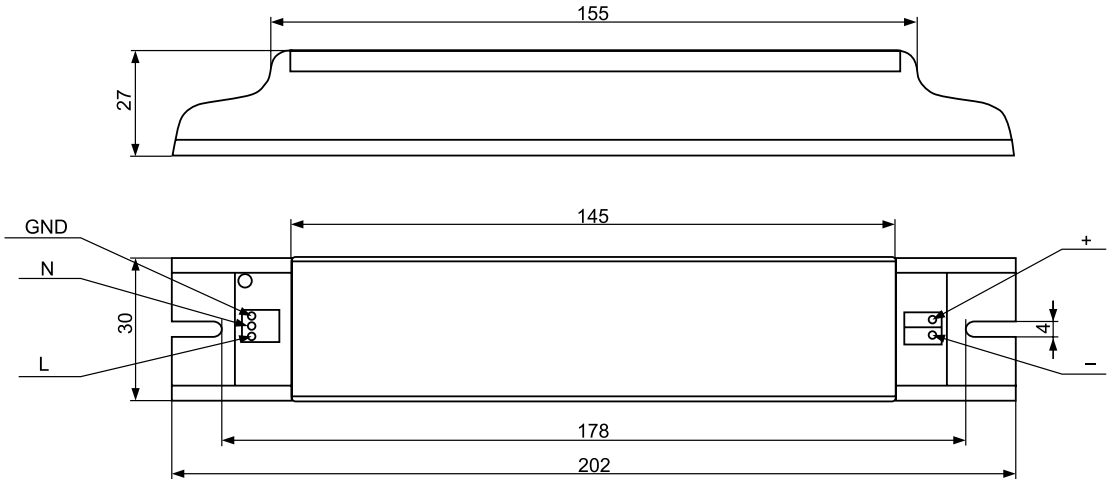
A1



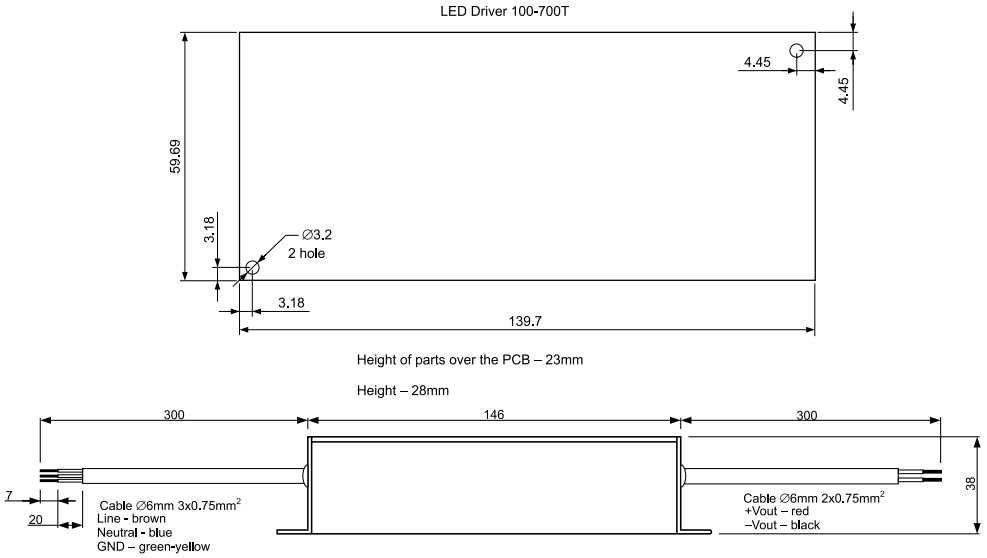
B0



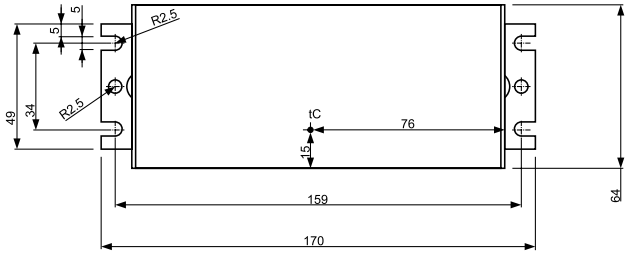
B1



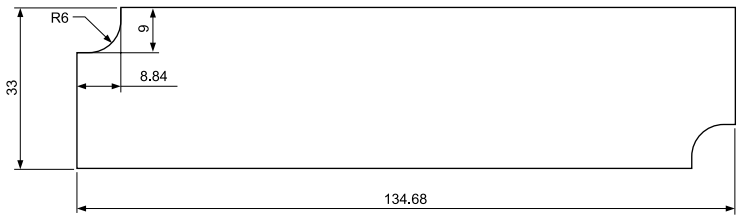
D0


LED Driver 100-700T
4.45
4.45
59.69
3.18
Ø3.2
2 hole
3.18
139.7
Height of parts over the PCB – 23mm
Height – 28mm
300
146
300
7
20
Cable Ø6mm 3x0.75mm²
Line - brown
Neutral - blue
GND – green-yellow
Cable Ø6mm 2x0.75mm²
+Vout – red
–Vout – black
38

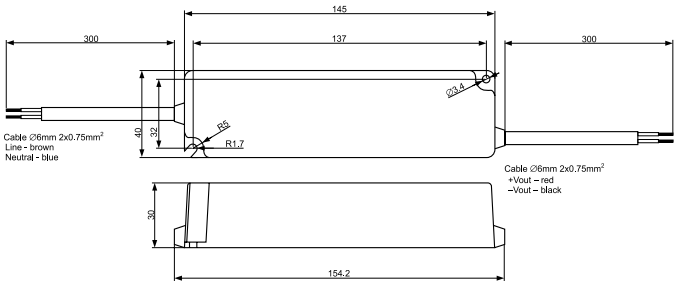
D1


5
5
R2.5
R2.5
49
34
tC
76
15
159
170
64

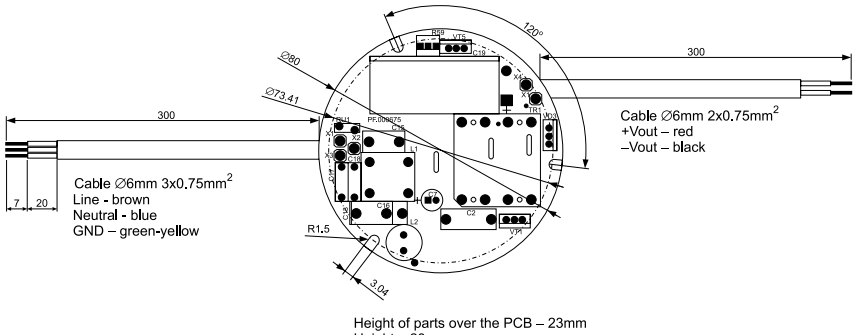
E0


R6
9
8.84
33
134.68
Height of parts over the PCB – 23mm
Height – 28mm

E1


145
300
137
300
Ø3.4
Cable Ø6mm 2x0.75mm²
Line - brown
Neutral - blue
40
32
R5
R1.7
Cable Ø6mm 2x0.75mm²
+Vout – red
–Vout – black
30
154.2

F0


120°
Ø80
Ø73.41
300
300
Cable Ø6mm 2x0.75mm²
+Vout – red
–Vout – black
Cable Ø6mm 3x0.75mm²
Line - brown
Neutral - blue
GND – green-yellow
7
20
R1.5
3.04
Height of parts over the PCB – 23mm
Height – 28mm

LED Modules “Argos-Trade Ltd.” Family – CREE

LED Specification:

Type of LED: CREE ML-E

Luminous Flux Bins: N3 (56,8 lm - 62 lm)

Forward Voltage Bins: 3.02V-3.2V

Correlated Color Temperature (CCT) Bins: 5000K - 3A, 3B, 3C, 3D

Luminous efficacy: 125-136.9 lm/w@150mA ; 80.9-88.3 Lm/w@500mA (max. current)

Color Rendering Index (CRI): 75

Operating Temperature Range of LEDs: up to 150°C

Viewing angle (FWHM) of LEDs 120°

PCB Specification:

Number of LEDs: 12, 14,16,18

All groups of LEDs of the PCB are connected in series, and every two LEDs in each group are connected in parallel, i.e. the current through each LED makes ½ of common current of the LED module.

Dimension (WxHxD): 460x10.56x1.5 mm

PCB material: aluminum; glass-reinforced epoxy laminate (FR4)

Thermal conductivity of PCB, W/m•K: aluminum - 1,5; FR4 - N/A

Maximum hot spot temperature Tc2 (preferred): 80°C

Terminal arrangement: soldering; Insulation Displacement Connectors (IDC) AVX 9176 (AWG 20, out-ward diameter 1.6 – 2.1 mm)

Fitting: rivets (Ø3,2mm) and screws (M3)

Application notes:

Alternatives of connection of LEDs depend on an output voltage of the LED driver. Possible following combinations of connections of LEDs:

- All in series then the output current of the LED Driver will be equal to the input current of the LED module;

- All groups of LED modules are connected in series, and every two LED module in each group are con-nected in parallel, so the input current of each LED module makes ½ of common output current of the LED module.

Examples of connections:

Examples of connections:

1. Variant for LED Driver 30-350:

- from 2 up to 4 modules are connected in series;

- 6 modules are connected in 3 groups in series and every two LED module in each group are connected in parallel (current through each LED will be 1/4 of the LED Driver output current)

2. Variant for LED Driver 50-350:

- from 3 up to 7 modules are connected in series;

- 6 or 8 modules are connected in 3 groups in series and every two LED module in each group are con-nected in parallel (current through each LED will be 1/4 of the LED Driver output current)

3. Variant for LED Driver 60-700:

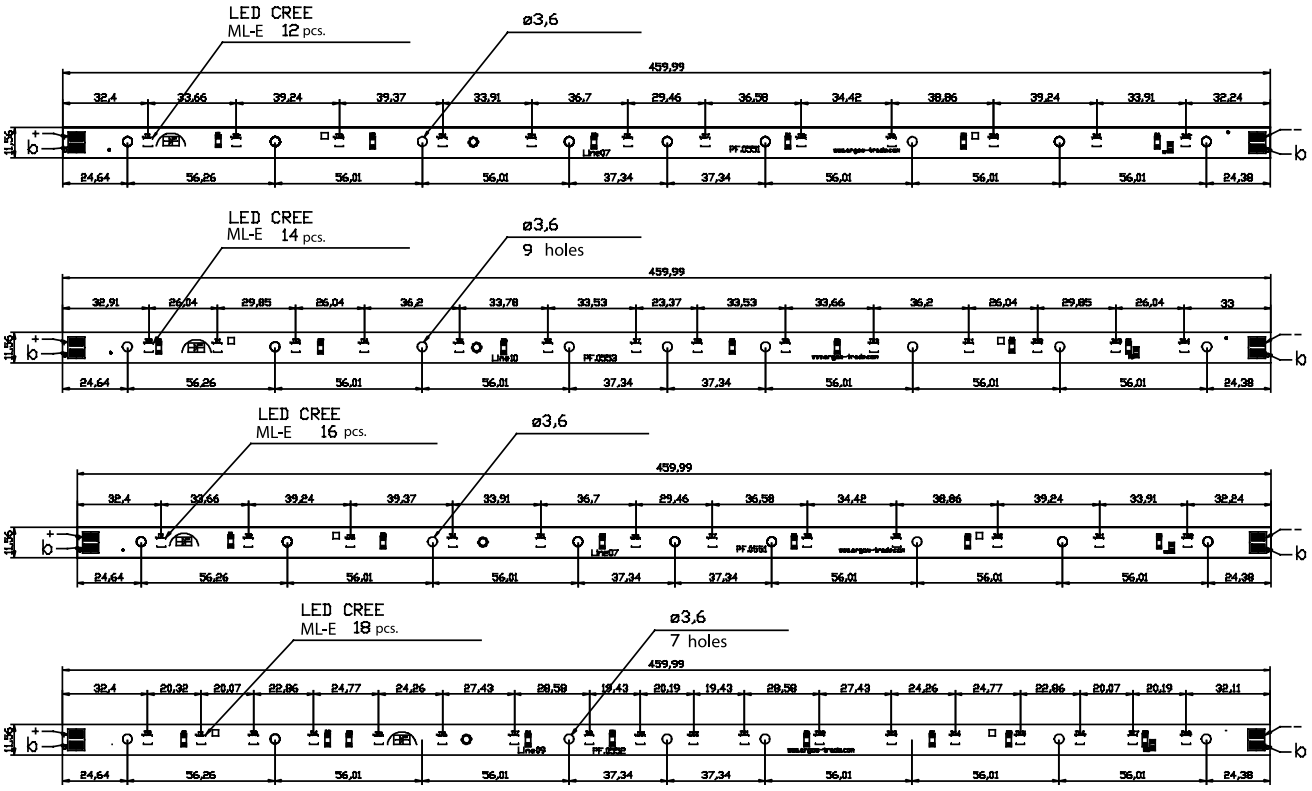
- all modules are connected in 3 groups in series and every two LED module in each group are connected in parallel (current through each LED will be 1/2 of the LED Driver output current).

PCB material: aluminum

With places for soldering										
Model	Qty. of LEDs	CRI	@ 350mA				@ 390mA			
			lm	v	w	lm/w	lm	v	w	lm/w
Argos Linear-AL-12-CREE MLE N3 5000K	12	75	724-791	17.92-18.99	6.3-6.6	116-126	793-866	18.16-19.23	7.1-7.5	112-122
Argos Linear-AL-14-CREE MLE N3 5000K	14	75	845-923	20.91-22.16	7.35-7.7	116-126	925-1010	21.19-22.44	8.3-8.6	112-122
Argos Linear-AL-16-CREE MLE N3 5000K	16	75	965-1055	23.89-25.32	8.4-8.8	116-126	1057-1155	24.21-25.64	9.5-10	112-122
Argos Linear-AL-18-CREE MLE N3 5000K	18	75	1086-1186	26.88-28.49	9.45-9.9	116-126	1189-1299	27.24-28.85	10.6-11.3	112-122
With AVX connectors										
Argos Linear-AL-12-CREE MLE N3 5000K AVX	12	75	724-791	17.92-18.99	6.3-6.6	116-126	793-866	18.16-19.23	7.1-7.5	112-122
Argos Linear-AL-14-CREE MLE N3 5000K AVX	14	75	845-923	20.91-22.16	7.35-7.7	116-126	925-1010	21.19-22.44	8.3-8.6	112-122
Argos Linear-AL-16-CREE MLE N3 5000K AVX	16	75	965-1055	23.89-25.32	8.4-8.8	116-126	1057-1155	24.21-25.64	9.5-10	112-122
Argos Linear-AL-18-CREE MLE N3 5000K AVX	18	75	1086-1186	26.88-28.49	9.45-9.9	116-126	1189-1299	27.24-28.85	10.6-11.3	112-122

Dimension of modules (L*W*H): 460*11.6*1.0 mm

All parameters are measured at 25°C of ambient temperature. Temperature of the PCB in a places for soldering is 50 °C for aluminium and 65 °C for textolite. For calculation of efficiency of a light it is necessary to take into account an efficiency of a source and transparency of the scatterer.



LED Modules “Argos-Trade Ltd.” Family – SEOUL SEMICONDUKTOR STW8Q14C

LED Specification:

Luminous Flux Bins: W5, X5.

Forward Voltage Bins: Y3 (2.9-3.0), Z1 (3.0-3.1), Z2 (3.1-3.2), Z3 (3.2-3.3), A1 (3.3-3.4)

Correlated Color Temperature (CCT) Bins:

4000K - E12; E13; E22; E23; E32; E33; E42; E43;

5000K - C12; C13; C22; C23; C32; C33; C42; C43.

Luminous efficacy:

4000K Bin W5 @ 100mA – 137 lm/W; and @ 175mA – 114 lm /W

5000K Bin W5 @ 100mA – 140 lm/W; and @ 175mA – 116 lm /W

4000K Bin X5 @ 100mA – 147 lm/W; and @ 175mA – 127 lm /W

5000K Bin X5 @ 100mA – 151 lm/W; and @ 175mA – 130 lm /W

Color Rendering Index (CRI) >80

Operating Temperature Range of LEDs -40 + 85 ^{0}C

Viewing angle (FWHM) of LEDs 120º

PCB Specification:

- Number of LEDs: 12,14,16,18
- All groups of LEDs of the PCB are connected in series, and every two LEDs in each group are connected in parallel, i.e. the current through each LED makes ½ of common current of the LED module.
- Dimension (WxHxD): 460.0x11.6x1.0 mm
- PCB material: aluminum; glass-reinforced epoxy laminate (FR4)
- Thermal conductivity of PCB, W/m•K: aluminum - 1,5; FR4 - N/A
- Maximum hot spot temperature Tc2: 85ºC
- Terminal arrangement: soldering; Insulation Displacement Connectors (IDC) AVX 9176 (AWG 20, outward diameter 1.6 – 2.1 mm)
- Fitting: rivets (Ø3,2mm) and screws (M3)

Application notes:

Alternatives of connection of LEDs depend on an output voltage of the LED driver. Possible following combinations of connections of LEDs:

- All in series then the output current of the LED Driver will be equal to the input current of the LED module;
- All groups of LED modules are connected in series, and every two LED module in each group are connected in parallel, so the input current of each LED module makes ½ of common output current of the LED module.

Examples of connections:

1. Variant for LED Driver 30-350:

- from 2 up to 4 modules are connected in series;
- 6 modules are connected in 3 groups in series and every two LED module in each group are connected in parallel (current through each LED will be 1/4 of the LED Driver output current)

2. Variant for LED Driver 50-350:

- from 3 up to 7 modules are connected in series;
- 6 or 8 modules are connected in 3 groups in series and every two LED module in each group are connected in parallel (current through each LED will be 1/4 of the LED Driver output current)

3. Variant for LED Driver 60-700:

- all modules are connected in 3 groups in series and every two LED module in each group are connected in parallel (current through each LED will be 1/2 of the LED Driver output current).

PCB material: aluminum

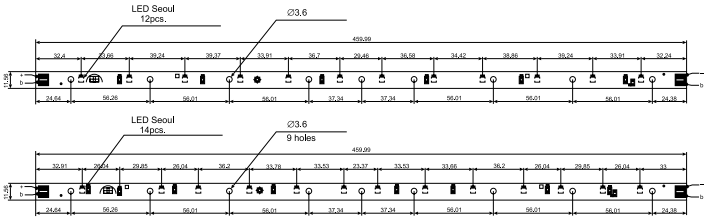
Model	Qty. of LEDs	CRI	@ 300mA				@ 350mA			
			lm	v	w	lm/w	lm	v	w	lm/w
With AVX connectors										
Argos Linear-AL-12-Seoul 5630 X5 4000K AVX	12	80	725-858	17,4-18,9	5,2-5,7	138-176	864-1021	17,5-19,2	6,1-6,7	134-172
Argos Linear-AL-12-Seoul 5630 X5 5000K AVX	12	80	760-880	17,4-18,9	5,2-5,7	143-181	887-1045	17,5-19,2	6,1-6,7	139-176
Argos Linear-AL-14-Seoul 5630 X5 4000K AVX	14	80	832-986	20,2-22,1	6,0-6,7	138-176	1008-1191	20,4-22,4	7,2-7,8	134-172
Argos Linear-AL-14-Seoul 5630 X5 5000K AVX	14	80	845-1015	20,2-22,1	6,0-6,7	143-181	1036-1228	20,4-22,4	7,2-7,8	139-176
Argos Linear-AL-16-Seoul 5630 X5 4000K AVX	16	80	1043-1215	23,1-25,2	6,9-7,6	138-176	1193-1388	23,3-25,6	8,1-8,9	134-172
Argos Linear-AL-16-Seoul 5630 X5 5000K AVX	16	80	1084-1246	23,1-25,2	6,9-7,6	143-181	1238-1423	23,3-25,6	8,1-8,9	139-176
Argos Linear-AL-18-Seoul 5630 X5 4000K AVX	18	80	1173-1366	25,9-28,4	7,8-8,6	138-176	1342-1562	26,2-28,8	9,1-10,0	134-172
Argos Linear-AL-18-Seoul 5630 X5 5000K AVX	18	80	1219-1401	25,9-28,4	7,8-8,6	143-181	1393 - 1602	26,2-28,8	9,1-10,0	139-176
Argos Linear-AL-12-Seul 5630 W5 4000K AVX	12	80	714-832	17,7-19,3	5,3-5,8	123-157	817-951	17,9-19,6	6,3-6,9	119-151
Argos Linear-AL-12-Seul 5630 W5 5000K AVX	12	80	742-853	17,7-19,3	5,3-5,8	128-161	848-975	17,9-19,6	6,3-6,9	124-155
Argos Linear-AL-14-Seul 5630 W5 4000K AVX	14	80	833-970	20,7-22,5	6,2-6,8	123-157	953-1110	20,1-22,9	7,3-8,0	119-151
Argos Linear-AL-14-Seul 5630 W5 5000K AVX	14	80	866-996	20,7-22,5	6,2-6,8	128-161	989-1137	20,1-22,9	7,3-8,0	124-155
Argos Linear-AL-16-Seoul 5630 W5 4000K AVX	16	80	952-1109	23,6-25,7	7,1-7,7	123-157	1089-1268	23,8-26,1	8,4-9,2	119-151
Argos Linear-AL-16-Seoul 5630 W5 5000K AVX	16	80	989-1137	23,6-25,7	7,1-7,7	128-161	1130-1300	23,8-26,1	8,4-9,2	124-155
Argos Linear-AL-18-Seoul 5630 W5 4000K AVX	18	80	1071-1248	26,5-28,9	7,9-8,7	123-157	1225-1426	26,8-29,4	9,4-10,4	119-151
Argos Linear-AL-18-Seoul 5630 W5 5000K AVX	18	80	1113-1279	26,5-28,9	7,9-8,7	128-161	1272-1462	26,8-29,4	9,4-10,4	124-155

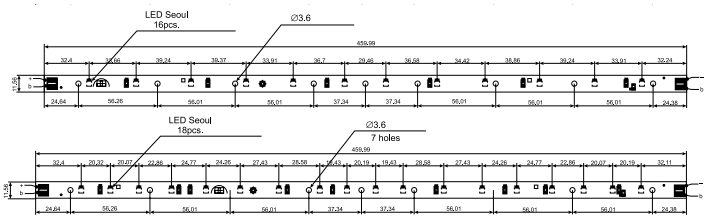
PCB Material: FR-4

Model	Qty. of LEDs	CRI	@ 300mA				@ 350mA			
			lm	v	w	lm/w	lm	v	w	lm/w
With AVX connectors										
Argos Linear-FR4-12-Seoul 5630 W5 4000K AVX	12	80	699-815	17,5-19,1	5,2-5,7	122-156	800-933	17,7-19,4	6,2-6,8	118-150
Argos Linear-FR4-12-Seoul 5630 W5 5000K AVX	12	80	726-836	17,5-19,1	5,2-5,7	127-160	830-955	17,7-19,4	6,2-6,8	123-154
Argos Linear-FR4-14-Seoul 5630 W5 4000K AVX	14	80	816-951	20,4-22,3	6,1-6,7	122-156	934-1088	20,7-22,6	7,2-7,9	118-150
Argos Linear-FR4-14-Seoul 5630 W5 5000K AVX	14	80	848-975	20,4-22,3	6,1-6,7	127-160	969-1114	20,7-22,6	7,2-7,9	123-154
Argos Linear-FR4-12-Seoul 5630 X5 4000K AVX	12	80	713-831	17,4-19,0	5,1-5,6	138-176	816-953	17,6-19,2	6,2-6,8	130-166
Argos Linear-FR4-12-Seoul 5630 X5 5000K AVX	12	80	740-855	17,4-19,0	5,1-5,6	143-181	847-974	17,6-19,2	6,2-6,8	135-171
Argos Linear-FR4-14-Seoul 5630 X5 4000K AVX	14	80	835-970	20,2-22,1	6,0-6,5	138-176	953-1110	20,5-22,4	7,2-7,9	130-166
Argos Linear-FR4-14-Seoul 5630 X5 5000K AVX	14	80	864-996	20,2-22,1	6,0-6,5	143-181	988-1136	20,5-22,4	7,2-7,9	135-171

Dimension of modules (L*W*H): 460*11.6*1.0 mm

All parameters are measured at 25°C of ambient temperature. Temperature of the PCB in a places for soldering is 50 °C for aluminium and 65 °C for textolite.
For calculation of efficiency of a light it is necessary to take into account an efficiency of a source and transparency of the scatterer.

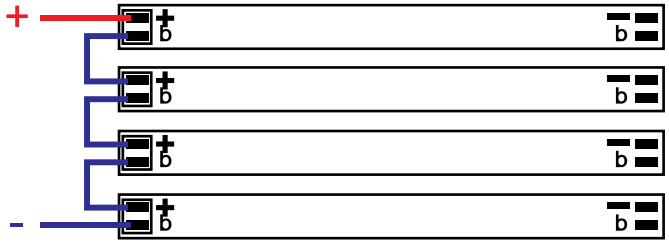




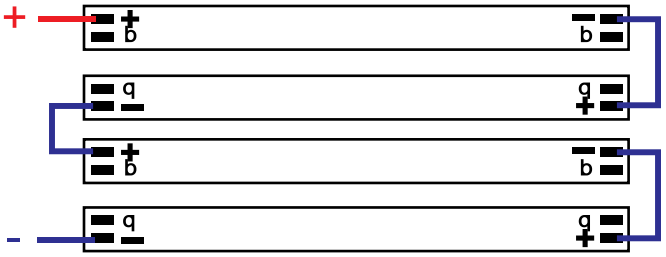
LED Modules. Connection Diagrams

Series connection of LED Modules

With AVX connectors

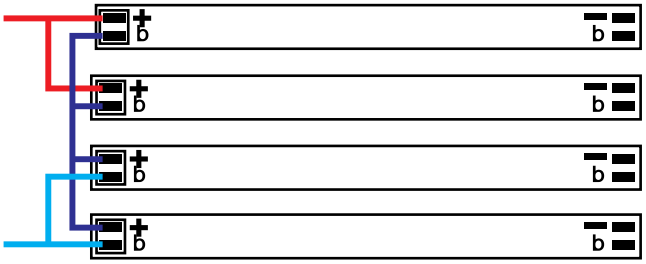


With places for soldering

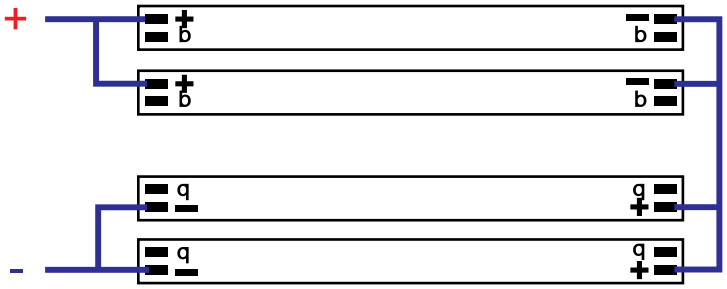


Serial-parallel connection of LED Modules

With AVX connectors



With places for soldering



DIRECTORY

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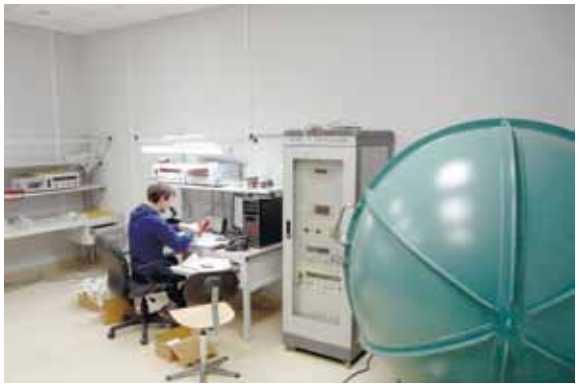
OUR MANUFACTURE

"Argos-Electron Ltd." Factory produces current LED drivers, LED modules, stairway lamps with the opto-acoustic sensors for the housing and public utilities.
The Factory is situated near the city of St.Petersburg and occupies a territory of 5000 sq.m.





Argos-Trade is a trade representative of Argos-Electron Factory since 2005

www.argos-trade.com