

## CC LINEAR



### PrimeLine NFC L-F11 DALI2

187569, 187570

#### Typical Applications

Built-in in linear luminaires for

- Office lighting
- Industrial lighting



#### PrimeLine NFC L-F11 DALI2

- **ADJUSTABLE OUTPUT CURRENT, CLO, DC LEVEL VIA NFC**
- **DIMMABLE: DALI (ED. 2) AND PUSH KEY**
- **VERY LOW RIPPLE CURRENT: < 3%**
- **LONG SERVICE LIFE: UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



# PrimeLine

## NFC L-F11 DALI2

### Product features

- Linear casing shape

### Functions

- Programmable via NFC interface (contactless)
  - Selectable current output
  - Programmable CLO function
  - Adjustable DC level

### Electrical features

- Mains voltage: 220–240 V  $\pm 10\%$
- Mains frequency: 50–60 Hz
- DC operation: 198–276 V, 0 Hz
- Push-in terminals: 0.75–1.5 mm<sup>2</sup>
- Power factor at full load:  $> 0.97$
- Max. working voltage ( $U_{OUT}$ ): 300 V
- Secondary side switching of LED modules is not allowed.

### Dimming

- Dimming range: 1 to 100%

### Safety features

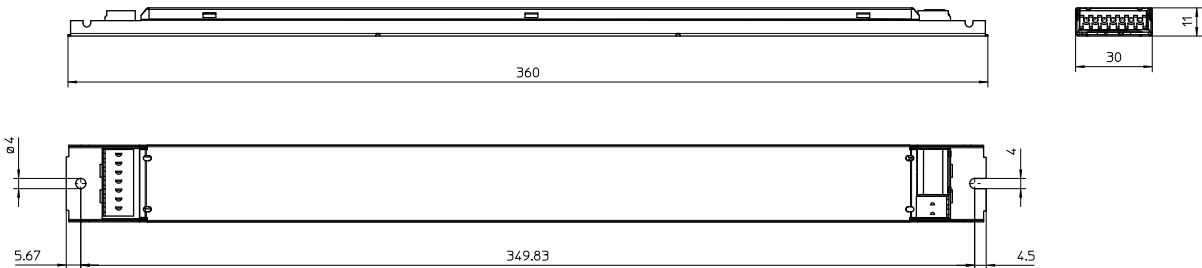
- Protection against transient main peaks
  - up to 1 kV (between L and N) and
  - up to 2 kV (between L/N and PE)
- Electronic short-circuit protection
- Overload protection
- Overtemperature protection
- Degree of protection: IP20
- Protection class I

### Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187569	80	54	190
187570	80	54	210

### Dimensions

#### M105



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.



### Applied standards

- EN 60598-2-22
- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2
- EN 62384
- EN 62386 DALI Ed. 2 Part 101,102,207,251,252,253
- EN 50172
- EN 55015

### Product guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage ([www.vossloh-schwabe.com](http://www.vossloh-schwabe.com)). We will be happy to send you these conditions upon request.



### Dimming

Analogue



### Current adjustment



## Electrical characteristics

Max. output W	Type	Ref. No.	Voltage 50–60 Hz V	Mains current mA	Inrush current A / $\mu$ s	Current output DC mA ( $\pm$ 5%)	Voltage output DC [V]	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
35	ECXd 400.732	<b>187569</b>	220–240	190	40 / 200	75–400	54–240	< 15	> 93	< 3
70	ECXd 700.733	<b>187570</b>	220–240	360	60 / 200	150–700	54–240	< 15	> 94	< 3

## Maximum ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the drivers.

Ref. No.	Ambient temperature range		Operation humidity range		Storage temperature range		Storage humidity range		Max. operation temperature at $t_c$ point °C	Degree of protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.		
All types	-20	+55	20	50	-30	+85	10	95	+85	IP20

## Expected service life time

at operation temperatures at  $t_c$  point

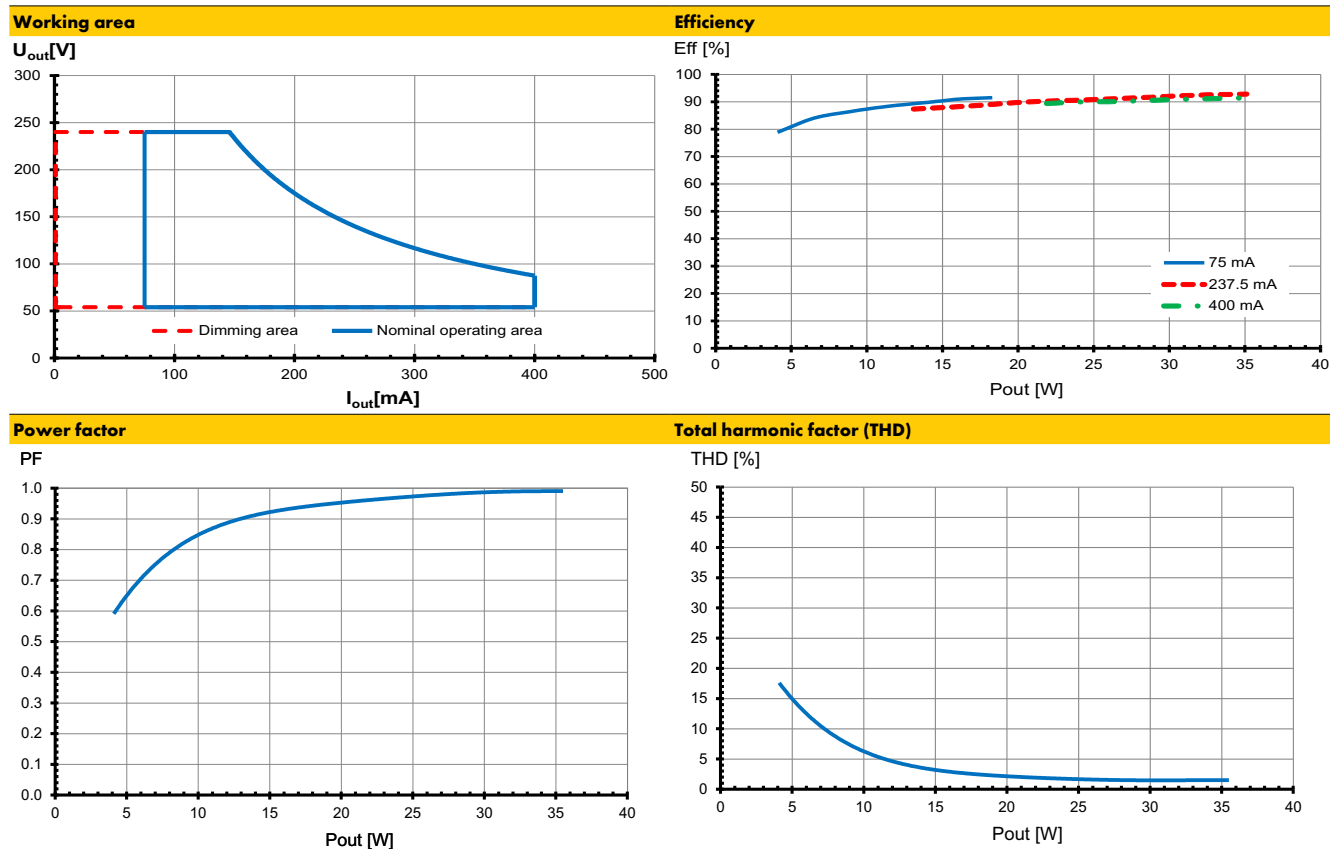
Operation current	Ref. No.	
	All types	
All	85 °C	75 °C
hrs.	50,000	100,000

## Product labels

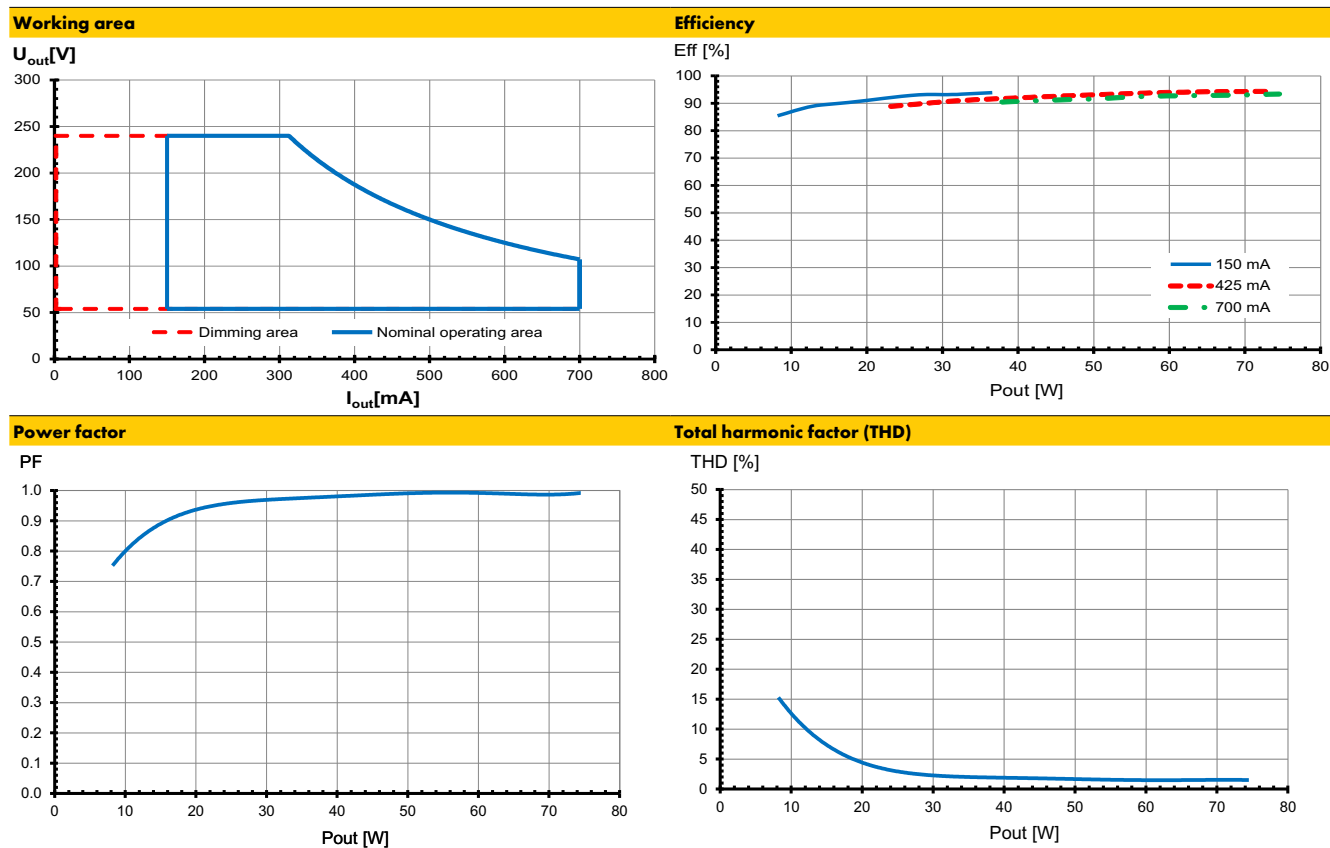
<

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

## Typ. performance graphs for 187569 / Type ECXd 400.732



## Typ. performance graphs for 187570 / Type ECXd 700.733



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

## Safety functions

- Transient mains peaks protection:  
Values are in compliance with EN 61547 (interference immunity).  
Surges between L-N: up to 1 kV  
Surges between L/N-PE: up to 2 kV
- Short-circuit protection: The control gear is protected against permanent short-circuit with automatic restart function.
- Overload protection: The control gear only works in range of rated output power and voltage problemfree.  
Please check before switch-on mains power supply that the selected LED load is suitable (see Electrical Characteristics on data sheet).
- Overheating: The control gear has overheating protection acc. to EN 61347-1 C 5e.  
In case of overheating the control gear will reduce the output power.
- No load operation: The control gear is protected against no load operation (open load).
- If any of the above mentioned safety functions will be triggered, disconnect the control gear from the power supply then find and eliminate the cause of the problem.

## PUSH function

The PUSH function enables direct dimming and switching of the LED driver using a standard push button.

- Just one key for dimming and ON/OFF
- Selection between DALI and PUSH functions via user NFC software
- PUSH operating voltage ranges:  
– AC: 220–240 V  $\pm$  10%  
– Failing to observe these working voltage ranges can lead to non-recognition of the signals; exceeding the maximum voltages can lead to the destruction of the data inputs.
- Up to 30 drivers can be dimmed simultaneously via a single push button
- Maximum cable length from PUSH button to the last driver: 200 mm

**On/Off Switching:** A brief push of the connected button (< 0.6 seconds) toggles the LED driver between ON and OFF states. The last dimming level is saved when powered down and restored upon the next power-up.

**Dimming Control:** Holding the push button (long press, 0.6–3 seconds) initiates continuous dimming. The light output will increase or decrease smoothly until the button is released. Each subsequent long press reverses the dimming direction (up or down).

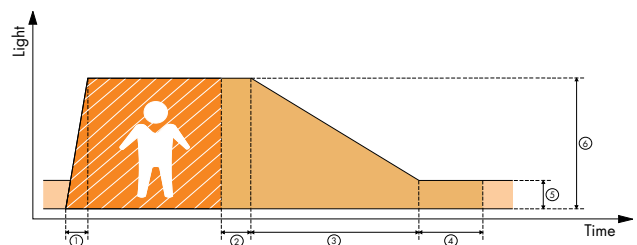
**Synchronization:** In installations with multiple LED drivers set to different dimming levels or directions (e.g., after system extension), all drivers can be synchronized to 50% brightness by holding the button for 10 seconds. The dimming transition time is then set to 3 seconds. Holding the button for 20 seconds changes the dimming transition time to 6 seconds.

**Corridor function mode:** driver enters the mode (long push  $t > 2$  min) where the dimming level is 100% for 2 minute, if there is no action in the meantime, driver dimmes down to 10% within 30s. of time. To exit Corridor function: 5 times short press ( $t < 3$ s).

## Corridor Function

The Corridor Function enables adaptive lighting control in areas such as corridors, stairwells, or passageways, using a standard motion detector in combination with the LED driver. This function ensures energy-efficient lighting by automatically adjusting the light output based on occupancy.

- **Presence Detected:** When a person enters the monitored area, the lighting instantly increases (fades in) to the preset presence value (default: 100% brightness). The light remains at this level as long as presence is detected.
- **Absence Detected:** Once the area is vacated, a run-on time begins. If no new presence is detected during this period, the light output will fade down to a lower absence value (default: 10% brightness) or switch off completely, depending on the configuration.
- **Parameter Adjustability:** All key parameters—such as presence value, absence value, fade-in time, fade-out time, run-on time, and switch-off delay—are individually adjustable to suit the specific application requirements.



## Parameter Definitions

- (1) **Fade-in Time (1 s):** The time required for the light to ramp up from the absence value to the presence value when motion is detected.
- (2) **Run-on Time (120s):** After the last detected presence, the light remains at the presence value for this duration. If new motion is detected, the timer resets.
- (3) **Fade-out Time (32s):** The time over which the light output decreases from the presence value to the absence value after the run-on time expires.
- (4) **Switch-off Delay:** The time the absence value is held before the light switches off completely (if configured). In some profiles, this may be set to "Never Off".
- (5) **Absence Value (default: 10%):** The maintained light output when no presence is detected. This can be set to 0% (off) if desired.
- (6) **Presence Value (default: 100%):** The light output level when occupancy is detected.

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

## Parametrization via NFC

- DC and emergency lighting operation
  - The control gears are suitable for direct voltage operation (DC).  
Reliable DC operation is guaranteed if the specified working area of LED driver is maintained.
  - DC range: 198–264 V
  - Light level at DC operation (EOF1): 15% (adjustable)
  - DC level range: 0/1–100% (programmable via NFC)
- Constant lumen output (CLO)
  - In the most cases the CLO function is used to reduce system performance over the life of an LED system.
  - The luminous flux of LED modules decreases in a step-wise manner up to the end of the modules' service life. To guarantee constant luminous flux, the output of the control gear must be gradually increased over its service life.
  - Defining the CLO function its needed to program the start, provisional and end value, respectively the LED lifetime via the NFC programmer.
- Current adjustment (mA)
  - Factory setting: minimum current
  - Programmable output current
- DALI-Configuration
  - Programming of Short address, Groups, Fade times and Scenes
  - Programming of Lightlevel for Power On, System Failure, Min and Max
- DALI Memorybank 1
  - Selection of dimming curve: logarithmic or Linear
  - Store Luminaire information data according EN 62386-251
- Diagnostics and Maintenance
  - Set configurable values described in EN 62386-253, -254
  - Read counters described in EN 62386-252, -253, -254 (Refresh rate is 1 hours of control gear operating time.)
- Corridor function
 

All key parameters—such as presence value, absence value, fade-in time, fade-out time, run-on time, and switch-off delay—are individually adjustable to suit the specific application requirements.

## System architecture – NFC configuration

- The driver can be programmed via NFC at the earliest 1.5 seconds after the mains voltage has been switched off.
- With a Feig Programmer or the Feig NFC antenna, contactless programming of NFC LED drivers is possible.
- The LED driver is programmed via NFC in a de-energised state.
- The use of the NFC programmer is flexible in the production or already in the pre-assembly process. A complex commissioning is not required. The operation and parameterization is done in the simplest way. All operating parameters can be individually programmed and updated
- The exact description of the programming can be found in the operation manual of the NFC programmer.



## Output voltage ( $U_{OUT}$ )

According to EN 61347-1,  $U_{OUT}$  indicates which voltage can occur at the output terminals directly or between the output terminals and the PE terminal of the LED driver. This value is given for non-insulated drivers.

The used LED module must have an insulation voltage that is at least as high as the specified  $U_{OUT}$  voltage of the driver.

## Leakage current

Leakage currents are present in all electronic converters or luminaires with PE connection and must be observed especially when using non-insulated LED drivers.

The PCB surfaces of LED modules form a capacitance with grounded LED aluminum circuit boards, heat sinks or mounting plates. This leads to capacitive leakage currents between the connection poles of the LED (+ and –) and the PE terminal. These capacitances should be kept as small as possible, since they are responsible for a possible glowing or flickering of the LEDs in standby mode. In extreme cases, the maximum permissible leakage current of the luminaire according to EN 60598 paragraph 10.3 may be exceeded. The leakage current is also relevant when using RCD circuit breakers.

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

## Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advices must be observed; non-observance can result in the destruction of the LED drivers, fire and/or other hazards.

### Mandatory regulations

- DIN VDE 0100
- EN 60598-1

### Mechanical mounting

- Mounting position: Any position inside a luminaire is allowed. LED drivers are not allowed to use for independent applications.
- Mounting location: LED drivers are designed for integration into luminaires or comparable devices. Installation in outdoor luminaires: degree of protection for luminaire with water protection rate  $\geq 4$  (e.g. IP54 required).
- Degree of protection: IP20
- Clearance: Min. 0.10 m from walls, ceilings and insulation
- Surface: Solid and plane surface for optimum heat dissipation required.
- Heat transfer: If the driver is destined for installation in a luminaire, sufficient heat transfer must be ensured between the driver and the luminaire casing. LED drivers should be mounted with the greatest possible clearance to heat sources. During operation, the temperature measure at the driver's  $t_c$  point must not exceed the specified maximum value.
- Fastening: Using M4 screws in the designated holes
- Tightening torque: 0.2 Nm

### DALI

- DALI function:

The DALI interface (Digital Addressable Lighting Interface) is a digital interface for communication between the control gear and the DALI control system. The DALI control system enables, for example, the dimming of the LED module. The respective triggers (e.g. by sensors) for dimming or parameter queries depend on the respective DALI control system. In addition, the control gear can be configured via the DALI interface. This requires an additional programming unit, e.g. commercially available DALI programming units. The DALI control system is connected via the terminal pair da/da.

- DALI bus:

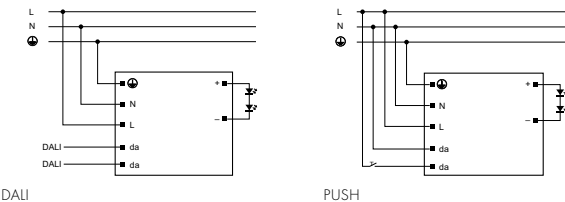
If the DALI bus is connected, the device starts with the preset PowerOnLevel 100%. If no DALI bus is connected, the device also starts with 100% light level in system failure mode.

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.



## Electrical installation

- Connection terminals: Push-in terminals for rigid or flexible conductors with a section of 0.75–1.5 mm<sup>2</sup>
- Stripped length: 8–9 mm
- Wiring: DALI or PUSH  
The mains conductor within the luminaire must be kept short (to reduce the induction of interference).  
Mains and lamp conductors must be kept separate and if possible should not be laid in parallel to one another.  
Optimum performance of the LED driver is ensured by observing the correct mains polarity as shown in the wiring diagram.
- PUSH wiring: Several LED drivers can be connected to a single PUSH button. Furthermore, several buttons can also be operated with a single PUSH system as long as the phase assignments (e.g. L1) are identical.  
In installations with PUSH function, an asynchronous dimming behaviour can occur.  
To minimize the risk, VS recommends the max. limit number of 30 LED drivers with one or more PUSH buttons.  
The lead length from the push button (n) to the LED driver (n) should not exceed 200 m.  
If more than 30 LED drivers are connected to the system, care must be taken to comply with the limitation of cable lengths. In addition, the max. number of LED drivers per circuit breaker should not be exceeded.
- Polarity: Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Through-wiring: Is not allowed.
- Secondary load: The sum of forward voltages of LED loads has to be within the tolerances which are mentioned in the table "Electrical Characteristics" in this data sheet.
- Wiring diagram:



## Selection of automatic cut-outs for VS LED drivers

- Dimensioning automatic cut-outs  
When the LED drivers are switched on, high short-term current pulses are generated by charging capacitors. These are taken into account in addition to the rated operating current in the table "Max. number of VS-LED- drivers" table.
- Release reaction  
The release reaction of the automatic conductor cut-outs comply with VDE 0641. part 11. for B, C characteristics. The values shown in the following tables are for guidance purposes only and are subject to system-dependent change.
- No. of LED drivers  
The maximum number of VS LED drivers applies to cases where the devices are switched on simultaneously. Specifications apply to single-pole fuses. The number of permissible drivers must be reduced by 20% for multi-pole fuses. The considered circuit impedance equals 400 mΩ (approx. 20 m [2.5 mm<sup>2</sup>] of conductor from the power supply to the distributor and a further 15 m to the luminaire).

Type	Ref. No.	Automatic cut-out type and possible no. of VS drivers pcs.					
Automatic cut-out type		B 10 A	B 13 A	B 16 A	C 10 A	C 13 A	C 16 A
ECXd 400.732	<b>187569</b>	15	20	24	24	31	38
ECXd 700.733	<b>187570</b>	10	13	16	16	21	26

- To limit capacitive inrush currents the current carrying capacity of each circuit breaker (fuse) can be increased by a factor of 2.5 with the help of our ESB (Ref. No.: 149820, 149821, 149822) inrush current limiters.

## EU compliance information

Hereby, Vossloh-Schwabe Deutschland GmbH declares that the radio equipment type PrimeLine NFC L-F11 DALI2 is in compliance with Directive 2014/53/EU.  
The full text of the EU declaration of conformity is available at the following internet address: [www.vossloh-schwabe.com](http://www.vossloh-schwabe.com).

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.