

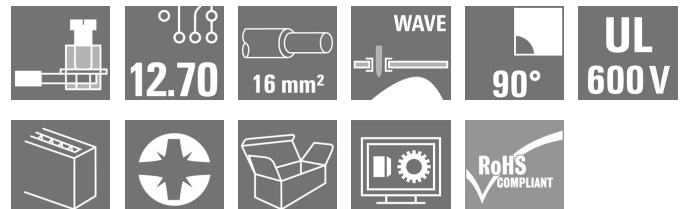
LUP 12.70/07/90 3.2SN GY BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

This PCB terminal provides connections for 1000 V, 76 A and 16 mm² conductor cross-section with proven clamping yoke connection at 12.7 mm pitch, conductor outlet direction in 90° design.

General ordering data

Version	Printed circuit board terminals, 12.70 mm, Number of poles: 7, 90°, Solder pin length (l): 3.2 mm, tinned, Pebble grey, Clamping yoke connection, Clamping range, max. : 16 mm ² , Box
Order No.	1839230000
Type	LUP 12.70/07/90 3.2SN GY BX
GTIN (EAN)	4032248349739
Qty.	20 pc(s).
Product data	IEC: 1000 V / 76 A / 0.5 - 16 mm ² UL: 600 V / 65 A / AWG 22 - AWG 6
Packaging	Box

Creation date December 5, 2023 8:48:31 AM CET

LUP 12.70/07/90 3.2SN GY BX

Weidmüller Interface GmbH & Co. KG

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Technical data

Dimensions and weights

Depth	25.1 mm	Depth (inches)	0.988 inch
Height	34.7 mm	Height (inches)	1.366 inch
Height of lowest version	31.5 mm	Width	87.16 mm
Width (inches)	3.431 inch	Net weight	72.65 g

System parameters

Product family	OMNIMATE Power - series LUP	Wire connection method	Clamping yoke connection
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	12.7 mm	Pitch in inches (P)	0.5 inch
Number of poles	7	Pin series quantity	1
Fitted by customer	Yes	Number of rows	1
Max. adjacent poles per row	12	Solder pin length (l)	3.2 mm
Solder pin dimensions	1.2 x 1.2 mm	Solder eyelet hole diameter (D)	1.6 mm
Solder eyelet hole diameter tolerance (D)+	0.1 mm	Number of solder pins per pole	2
Screwdriver blade	1.0 x 5.5, PZ 2	Screwdriver blade standard	DIN 5264
Tightening torque, min.	1.2 Nm	Tightening torque, max.	1.5 Nm
Clamping screw	M 4	Stripping length	12 mm
L1 in mm	76.2 mm	L1 in inches	3 inch
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged	Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch
Protection degree	IP20	Volume resistance	0.50 mΩ

Material data

Insulating material	Wemid (PA)	Colour	Pebble grey
Colour chart (similar)	RAL 7032	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	UL 94 flammability rating	V-0
Contact material	E-Cu	Contact surface	tinned
Layer structure of solder connection	1.5...3 µm Ni / 4...6 µm Sn matt	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-25 °C
Temperature range, installation, max.	120 °C		

Conductors suitable for connection

Clamping range, min.	0.13 mm ²
Clamping range, max.	16 mm ²
Wire connection cross section AWG, min.	AWG 22
Wire connection cross section AWG, max.	AWG 6
Solid, min. H05(07) V-U	0.5 mm ²
Solid, max. H05(07) V-U	16 mm ²
Stranded, min. H07V-R	6 mm ²
Stranded, max. H07V-R	16 mm ²
Flexible, min. H05(07) V-K	0.5 mm ²
Flexible, max. H05(07) V-K	16 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 10 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, 2.5 mm ² min.	

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Technical data

w. wire end ferrule, DIN 46228 pt 1, max. 10 mm²

Plug gauge in accordance with EN 60999 a x b; ø 5.4 mm x 5.1 mm; 5.3 mm

Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	2.5 mm ²	
	wire end ferrule	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	H2.5/12	
		Stripping length	nominal	14 mm
		Recommended wire-end ferrule	H2.5/19D BL	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	4 mm ²	
	wire end ferrule	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	H4.0/12	
		Stripping length	nominal	14 mm
		Recommended wire-end ferrule	H4.0/20D GR	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	6 mm ²	
	wire end ferrule	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	H6.0/12	
		Stripping length	nominal	14 mm
		Recommended wire-end ferrule	H6.0/20 SW	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	10 mm ²	
	wire end ferrule	Stripping length	nominal	15 mm
		Recommended wire-end ferrule	H10.0/22 EB	
		Stripping length	nominal	12 mm
		Recommended wire-end ferrule	H10.0/12	

Reference text Length of ferrules is to be chosen depending on the product and the rated voltage., The outside diameter of the plastic collar should not be larger than the pitch (P)

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	76 A
Rated current, max. number of poles (Tu=20°C)	74 A	Rated current, min. number of poles (Tu=40°C)	76 A
Rated current, max. number of poles (Tu=40°C)	64 A	Rated voltage for surge voltage class / pollution degree II/2	1,000 V
Rated voltage for surge voltage class / pollution degree III/2	1,000 V	Rated voltage for surge voltage class / pollution degree III/3	1,000 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	6 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	8 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	8 kV	Short-time withstand current resistance	1 x 1s with 700 A

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Technical data

Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

200039-1198743

Rated voltage (Use group B / CSA) 600 V

Rated voltage (Use group C / CSA) 600 V

Rated current (Use group B / CSA) 65 A

Rated current (Use group C / CSA) 65 A

Wire cross-section, AWG, min. AWG 22

Wire cross-section, AWG, max. AWG 6

Reference to approval values
Specifications are maximum values, details - see approval certificate.

Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

E60693

Rated voltage (Use group B / UL 1059) 600 V

Rated voltage (Use group C / UL 1059) 600 V

Rated current (Use group B / UL 1059) 65 A

Rated current (Use group C / UL 1059) 65 A

Wire cross-section, AWG, min. AWG 22

Wire cross-section, AWG, max. AWG 6

Reference to approval values
Specifications are maximum values, details - see approval certificate.

Packing

Packaging	Box	VPE length	309 mm
VPE width	96 mm	VPE height	71 mm

Type tests

Test: Durability of markings	Standard	DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96
	Test	mark of origin, type identification, type of material, approval marking UL, durability
	Evaluation	available

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Technical data

Test: Clampable cross section	Standard	DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm ²
		Type of conductor and conductor cross-section	stranded 0.5 mm ²
		Type of conductor and conductor cross-section	solid 16 mm ²
		Type of conductor and conductor cross-section	stranded 16 mm ²
		Type of conductor and conductor cross-section	AWG 22/1
		Type of conductor and conductor cross-section	AWG 22/19
		Type of conductor and conductor cross-section	AWG 6/7
		Type of conductor and conductor cross-section	AWG 6/19
	Evaluation	passed	
Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999-1 section 9.4 / 12.00	
	Requirement	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	AWG 22/1
		Type of conductor and conductor cross-section	AWG 22/19
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm ²
		Type of conductor and conductor cross-section	stranded 0.5 mm ²
	Evaluation	passed	
	Requirement	2.9 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 16 mm ²
		Type of conductor and conductor cross-section	stranded 16 mm ²
		Type of conductor and conductor cross-section	AWG 6/7
	Evaluation	passed	

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Technical data

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00	
	Requirement	≥15 N	
	Conductor type	Type of conductor and conductor cross-section	AWG 22/1
		Type of conductor and conductor cross-section	AWG 22/19
	Evaluation	passed	
	Requirement	≥20 N	
	Conductor type	Type of conductor and conductor cross-section	H05V-U0.5
		Type of conductor and conductor cross-section	H05V-K0.5
	Evaluation	passed	
	Requirement	≥100 N	
	Conductor type	Type of conductor and conductor cross-section	H07V-K16
		Type of conductor and conductor cross-section	H07V-U16
		Type of conductor and conductor cross-section	AWG 6/7
	Evaluation	passed	

Classifications

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	EC002643	ETIM 9.0	EC002643
ECLASS 9.0	27-44-04-01	ECLASS 9.1	27-44-04-01
ECLASS 10.0	27-44-04-01	ECLASS 11.0	27-46-01-01
ECLASS 12.0	27-46-01-01	ECLASS 13.0	27460101

Important note

IPC conformity	Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request.
Notes	• Additional variants on request • Rated current related to rated cross-section & min. No. of poles. • Wire end ferrule without plastic collar to DIN 46228/1 • Wire end ferrule with plastic collar to DIN 46228/4 • The data given under CSA relates to a cUL approval - E60693 • P on drawing = pitch • Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards. • Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

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www.weidmueller.com**Technical data****Approvals**

Approvals



ROHS Conform

UL File Number Search UL Website

Certificate No. (cURus) E60693

DownloadsApproval/Certificate/Document of
Conformity[Declaration of the Manufacturer](#)

Engineering Data

[CAD data – STEP](#)

Product Change Notification

[20220201 Visual change OMNIMATE® Power PCB terminal blocks and connectors](#)[20220201 Visuelle Änderung OMNIMATE® Power Leiterplattenklemmen und -steckverbinder](#)

User Documentation

[QR-Code product handling video](#)

Catalogues

[Catalogues in PDF-format](#)

Brochures

[FL DRIVES EN](#)[MB DEVICE MANUF. EN](#)[FL DRIVES DE](#)[FL APPL. INVERTER EN](#)[FL BASE STATION EN](#)[FL ELEVATOR EN](#)[FL POWER SUPPLY EN](#)[FL 72H SAMPLE SER EN](#)[PO OMNIMATE EN](#)

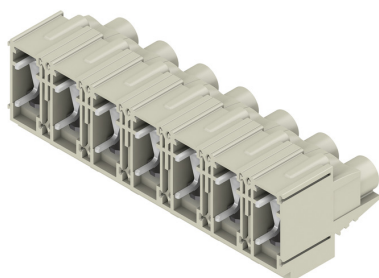
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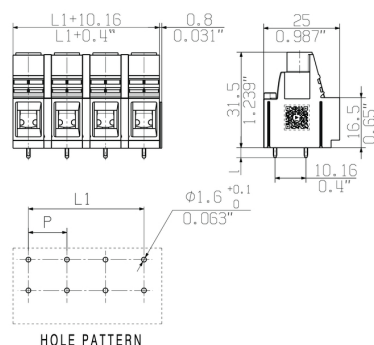
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Drawings

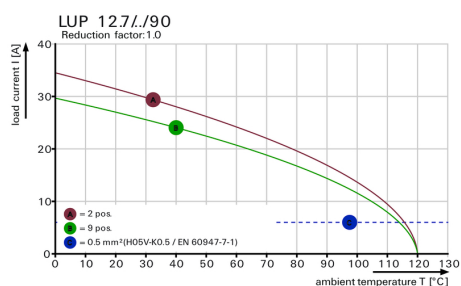
Product image



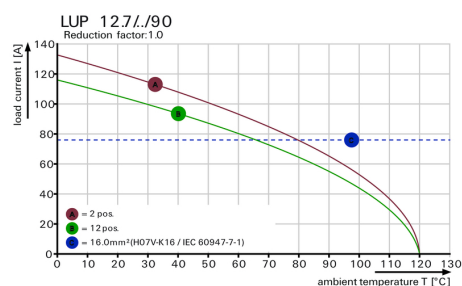
Dimensional drawing



Graph



Graph



LUP 12.70/07/90 3.2SN GY BX

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Accessories

Intermediate plates

**The maximum voltage is based on the minimum distance.**

Intermediate plates increase the creepage and clearance distances between different potentials and permit higher rated voltages or a clear separation, e.g. between mains and low voltages or different protection zones.

The dovetail joint enables easy installation and guarantees a secure fit. Other characteristics include:

- Pitch extended by 1.27 or 2.54mm - all other combinations possible
- Colour coding ensures visual differentiation
- Different geometries for standard designs.

Incomplete individual assemblies avoided because separate terminal blocks combine to form a single holistic unit. Ready-assembled on request.

The advantages: efficient processing, increased stability, improved reliability.

General ordering data

Type	LUP ZP 2.54 GY	Version	Product data	Packaging
Order No.	1837580000	Printed circuit board terminals, Accessories, Intermediate plate, Pebble		Box
GTIN (EAN)	4032248347315	grey, Number of poles: 1		
Qty.	50 pc(s).			

Additional accessories

**No task is too small when creating the perfect solution.**

Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

A system is not a system without small but essential details:

- Test plugs ensure reliable pick-up from diagnostic sockets

In tandem with the manufacturing process and application.

General ordering data

Type	PS 2.0 MC	Version	Product data	Packaging
Order No.	0310000000	PCB plug-in connector, Accessories, Test plug, red, Number of poles: 1		Box
GTIN (EAN)	4008190000059			
Qty.	20 pc(s).			

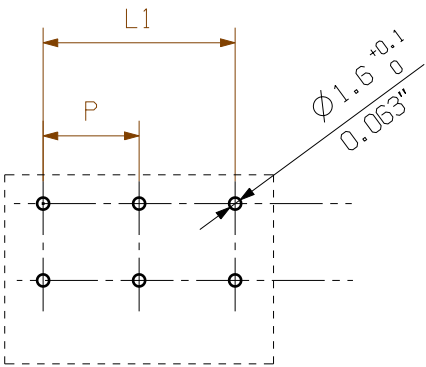
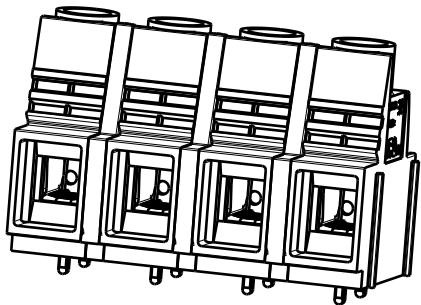
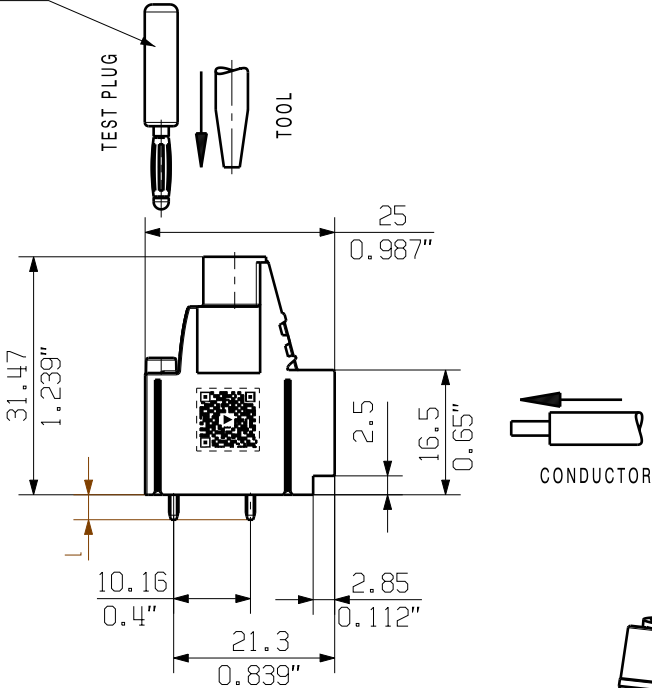
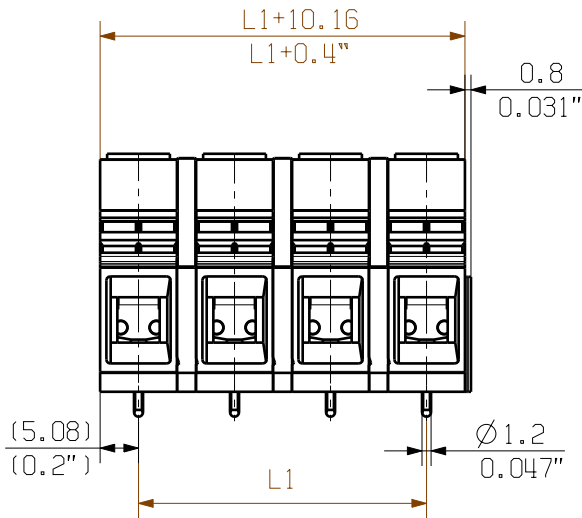
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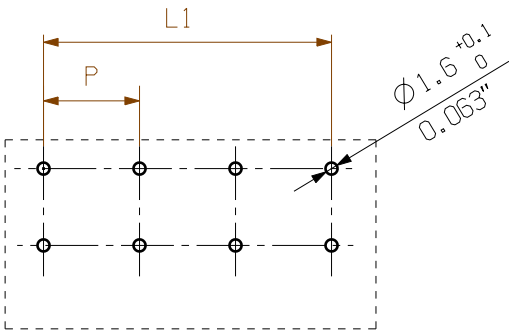
Dimensions without tolerances are no check dimensions

The English version is binding

PS 2.0 / ORDER NO.
031000 0000



HOLE PATTERN (BLOCK)

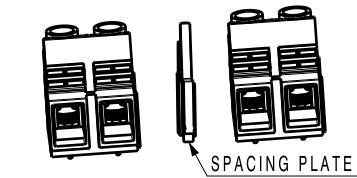


HOLE PATTERN

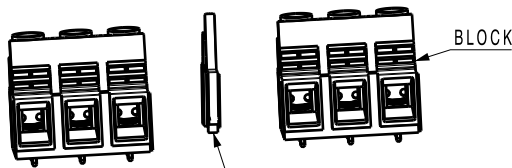
n=NO OF POLES
P= PITCH=12.70
l= STIFTLAENGE/ 5.0mm/0.197"
PIN LENGTH 3.2mm/0.126"
SHOWN: LUP 12.70/02/90...SO (BLOCK)
LUP 12.70/03/90...SO (BLOCK)
LUP 12.7/04/90... (SINGLE POL)

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

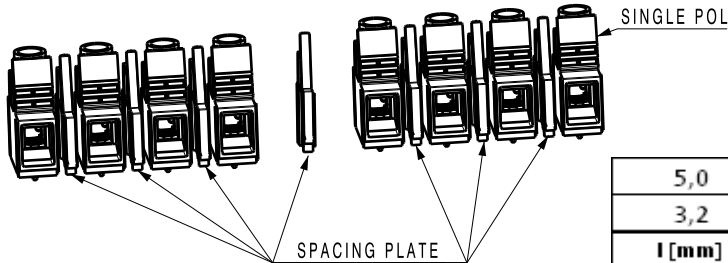


SPACING PLATE



BLOCK

SPACING PLATE



SINGLE POL

SPACING PLATE

TO MAINTAIN THE NECESSARY VOLTAGE DISTANCES FOR 600V - UL & 1000V - IEC, A SPACING PLATE IS REQUIRED BETWEEN ASSEMBLED LUP 12.7 PCB TERMINAL BLOCKS

12	139,70	5,500
11	127,00	5,000
10	114,30	4,500
9	101,60	4,000
8	88,90	3,500
7	76,20	3,000
6	63,50	2,500
5	50,80	2,000
4	38,10	1,500
3	25,40	1,000
2	12,70	0,500
l [mm]	n	L1 [mm] L1 [inch]

GENERAL TOLERANCE:
DIN ISO 2768-mK

102479	Prim PLM Part No.: 411688	Prim ERP Part No.: 1160810000
First Issue Date 03.03.2018	Modification	Weidmüller
Scale: 2:1	Size: A3	34163
Drawings Assembly	Product file: 7233 LUP 10.16/12.7	Sheet 02 of 02 sheets
LUP12.70/././90		10
not released		

Recommended wave soldering profiles

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Fax: +49 5231 14-292083
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Single Wave:



Double Wave:



Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.

We reserve the right to make technical changes.