Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Marking solutions for electronics production

MARKING system

PHŒNIX CONTACT

INSPIRING INNOVATIONS

The complete marking range for electronics production

Phoenix Contact can provide marking solutions for numerous applications, from unique identification of components, through traceability in the production process, to protection against tampering and counterfeiting.

Printed circuit board

Protect the traceability of your products with resistant marking. Phoenix Contact labels will help you to cut costs but not quality. High-definition barcodes ensure that information remains permanently available.

Housing marking

Professional device labeling is a walking advertisement for your products. Labeling materials from Phoenix Contact can be relied upon for clear and durable marking from front panel to rating plate.

Marking systems benefiting from the expertise of electronics specialists

Phoenix Contact is one of the world's leading manufacturers of electronic components and systems for industrial automation technology. Our production activities have helped us build up a wealth of expertise in all aspects of marking, which we are now happy to share with our customers. Here at Phoenix Contact, you can expect products that have already proven their worth in thousands of practical applications.
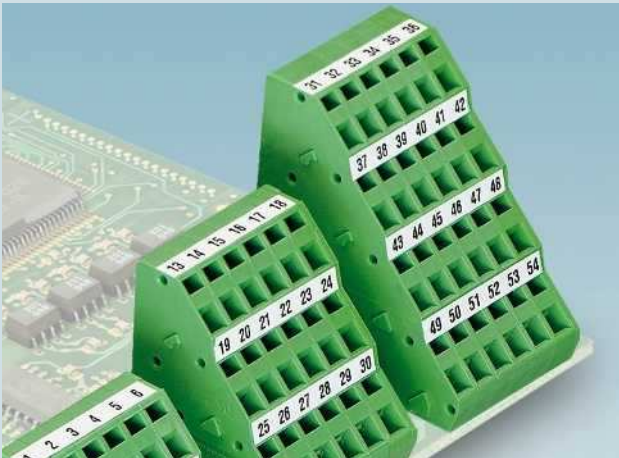
We can provide you with materials and devices that have been customized to meet the specific challenges encountered when marking

- PCBs
- Housings
- PCB terminal blocks and plug-in connectors
- Cables and lines

The complete marking portfolio for electronics production.

Contents

PCB terminal block and plug-in connector marking

With clear and rugged terminal marking, your products can be wired reliably and conveniently. Choose materials from the market leader in PCB connection technology when marking your device connections.

Cable and conductor marking

Thanks to our optimized printing technologies and resistant materials, even markings exposed to significant stress remain permanently legible.

Marking expertise

Phoenix Contact marking materials provide an assurance of long-lasting durable marking for components and parts. Their high quality is demonstrated by recognized tests which are documented in national and international standards.

Test passed

- ▶ Grid test
- ▶ Adhesive strength test
- ▶ Resistance to abrasion
- ▶ Scratch resistance
- ▶ Abrasion and wipe resistance

Mechanical tests

- ▶ UV light resistance
- ▶ Solvent resistance
- ▶ Resistance to oil and chemicals

Environment tests

- ▶ Halogen-free protection against flames
- ▶ Inflammability classification
- ▶ Material properties

Material tests

Material properties

Polyvinyl chloride (PVC)
PVC has a long service life. It is characterized by its high mechanical strength and chemical resistance. Neither oxygen nor ozone affects PVC. The material is resistant to corrosive salt solutions and most acids. The polyvinyl chloride used by Phoenix Contact is silicone-free and is suitable for use in temperatures between -30°C and +80°C.

Polyester
Polyester is a chemical-resistant material. It is ideally suited to printing, shaping, and punching. Polyester is resistant to UV radiation and absorbs little moisture. The polyester used by Phoenix Contact is silicone and halogen-free. Depending on its composition, it is suitable for use in temperatures between -40°C and +150°C.

Polyolefin
Polyolefines are semi-crystalline thermoplastics, which can be easily processed as extrusion profiles (shrink sleeves). They are characterized by good chemical resistance. Silicone-free, temperature range: -55°C to +125°C.

Polycarbonate (PC)
Polycarbonate has high mechanical strength and chemical resistance. Rigidity, dimensional stability, and good heat distortion resistance are further distinguishing features of this material. Polycarbonate is used to manufacture particularly smooth and stable marking materials. The polycarbonate used by Phoenix Contact is silicone and halogen-free. It absorbs little moisture and is suitable for use at temperatures between -40 °C and +125 °C.

Polyurethane (PU)
Thermoplastic polyurethane is a highly-flexible and also extremely tear-proof material. PU is chemically very resistant. The material used by Phoenix Contact is free from halogen and attains the inflammability class UL 94 V0. Temperature range: -25 °C to +80 °C.

Polyimide (PI)
Polyimide is a high-performance plastic and is distinguished by its high resistance to weather conditions and chemicals. The material is free from silicon and halogen.

In addition, it also has a very high resistance to temperature. Temperature range of polyimide foil: permanent exposure from -40 °C to +170°C, brief exposure up to +398 °C.

Polyamide (PA)
Even at high operating temperatures, polyamide has excellent electrical, mechanical, chemical and thermal properties. Brief peak temperatures of up to 200°C are permitted as a result of heat aging stabilization. PA belongs to inflammability class V2 to V0 as per UL 94. The polyamide used by Phoenix Contact is silicone and halogen-free and is suitable for use in temperatures between -60°C and +125°C.

Inflammability classification

▶ UL 94

UL 94 describes inflammability tests that have gained particular importance in the field of electrotechnology. Behavior in fire is the main focus. Items are classified according to either UL 94 HB (Horizontal Burn) or UL 94 V (Vertical Burn). The test setup is such that the 94 V0/1/2 classifications are stricter than the 94 HB classification.

UL 94 V0/1/2
After conditioning, the test bar is vertically clamped and flame-treated several times for 10 seconds each. Between the flame treatments, the time until the test bar is extinguished is measured. Afterwards, the afterburning times and the drip behavior are evaluated. The test procedure laid down by this standard is not suitable for foils and/or very thin test objects that shrink under the heat of the flame.

The plastic used for Phoenix Contact products fulfills the higher-grade criteria.

Test setup according to UL 94
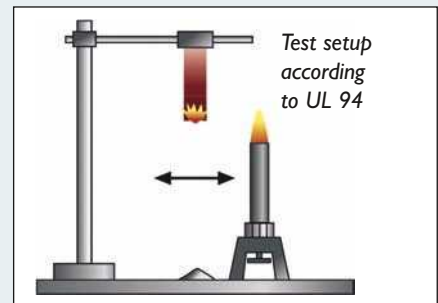
Classification

	UL 94 V0	UL 94 V1	UL 94 V2	UL 94 HB
Burning time after each flame treatment	≤ 10 s	≤ 30 s	≤ 30 s	–
Total burning time after 10 flame treatments	≤ 50 s	≤ 250 s	≤ 250 s	–
Glowing time after the 2nd flame treatment	≤ 30 s	≤ 60 s	≤ 60 s	–
Complete burn-off	No	No	No	Yes
Inflammation of the absorbent cotton under the sample	No	No	Yes	–

Halogen-free protection against flames

▶ DIN EN ISO 1043-4

Halogens are the chemical elements astatine, fluorine, chlorine, bromine, and iodine. One characteristic of the halogen compounds of bromine and chlorine relates to the reduction in the degree of inflammability when used in plastics. In the event of fire, poisonous corrosive gases are formed, which can also lead to secondary damage as a result of the extinguishing water. For this reason, wherever possible, Phoenix Contact does not use any flame protection agents which contain halogen or other additives. Polyamide, polycarbonate, polyester, polyurethane and polyolefines feature halogen-free flame protection systems.

Resistance to oil and chemicals

▶ DIN EN ISO 175

Physical and/or chemical processes/reactions can occur as a result of external media, such as liquids or gases. This can result in a change to the plastic's properties, the plastic becoming damaged or even destroyed. Imprints and labels can also be affected by these changes.

In order to prevent this from happening, Phoenix Contact uses only plastics and printing/labeling materials which have been tested in accordance with DIN EN ISO 175.

Chemical	Weight %
Alkalis	
Sodium hydroxide solution	3
Potassium hydroxide solution	3
Ammonium hydroxide (ammonia water)	25
Alcohols	
Ethanol	100
1-propanol	100
2-propanol	100
Diethylene glycol	100
Aldehyde/ketones	
Ethyl acetate	100
Oils, greases, aliphatic and aromatic hydrocarbons	
IRM 902	100
IRM 903	100
ASTM No. 1	100
Xylol	100
Test benzene (180/220)	100
Hycut SU 68	100
Hycut SET 46	100
Shell Tellus 92	100
Aqueous salt solutions	
Sodium chloride	5
Potassium chloride	5
Ammonium chloride (ammonia solution)	100

▶ EN 60464-2:2001

Imprints and labels must be resistant to solvent vapors. Therefore, in accordance with the aforementioned standard, exposure to solvents is continued over 10 days in the following atmospheres:

• Acetone

• n-hexane

• Ethanol

The labels and imprints must still be legible after the 10-day exposure.

Phoenix Contact marking materials are solvent-resistant and fulfill the stringent requirements.

UV light resistance

▶ DIN EN ISO 4892-2 and DIN EN ISO 60068-2-5

In addition to infrared radiation, the solar radiation affecting the surface of the earth has radiation ranges from the UV-A and UV-B spectrum. Depending on the plastic used, the UV-B part of the wavelength of 320 nm induces a more or less strong molecular decomposition that is responsible for a considerable restriction of the plastic's mechanical property profile. Even the properties of imprints and labels can sustain damage to a greater or lesser extent due to this UV radiation. This results in fading and can even lead to complete illegibility.

If plastics and their imprints and labels are often subjected to day/night cycles outdoors, condensation may appear on the surface in the form of water droplets, which can act in a similar way to magnifying glasses when the sunshine returns, thus intensifying the radiation effect. The UV-B part of the solar spectrum in particular leads to an impairment of the plastic's mechanical property profile.

Marking materials from Phoenix Contact can be stored in dry as well as humid atmospheres under UV radiation and are tested in accordance with the aforementioned standards. The properties of the plastic and the legibility of the imprints and labels are checked after the test.

▶ DIN EN 61010-1

Labels and imprints must be resistant to the standard cleaning agents used in the industry. Therefore, at Phoenix Contact, labels and imprints are rubbed using a soft cloth with water, isopropanol, petroleum ether, and n-hexane. The labels and imprints must still be legible after the test.

Phoenix Contact marking materials meet stringent requirements with regard to abrasion and wipe resistance and can thus be used in all applications.

Scratch resistance

▶ DIN EN ISO 1518

Labels and imprints must also be resistant to external, point and/or linear mechanical loads. For this reason, Phoenix Contact tests all labels and imprints for scratch resistance in accordance with the aforementioned standard. The test is carried out by applying a scratching tool with a hemispherical tip (Ø 1 mm) to the test objects. Depending on the printing procedure, a force of between 2 N and 6 N is applied. This is followed by a visual and microscopic inspection of the test objects.

Phoenix Contact marking materials meet these stringent mechanical requirements.

Resistance to abrasion

▶ KIMW 003, Part 1 In-house standard of the Lüdenscheid Plastics Institute

Labels and imprints must be resistant to externally applied surface loads. Therefore, at Phoenix Contact, labels and imprints are subjected to various numbers of strokes (1000, 10,000, 30,000) using a felt disk (hardness H1 according to DIN 61200) with a specific pressure force (1 N, 2 N and/or 4 N). Classification into the various load classes presented in the standard depends on the pressure force that leads to damage to the printing with reference to the number of strokes.

The imprints and labels at Phoenix Contact comply with the highest load class K9 (30,000 strokes with 4 N pressure force).

▶ based on FINAT test method No. 2

The purpose of this test is to compare the adhesive strength of labels on various basic materials. To this end, a strip of labels (25 mm x 175 mm) is applied to the respective basic material with a specified force. After a defined storage period, the strip is removed from the basic material at an angle of 90° and with a speed of 300 mm/min. The adhesive strength is specified in N/25 mm. The test thus enables the selection of the most suitable label for the application.

v = 300 mm/min

90°
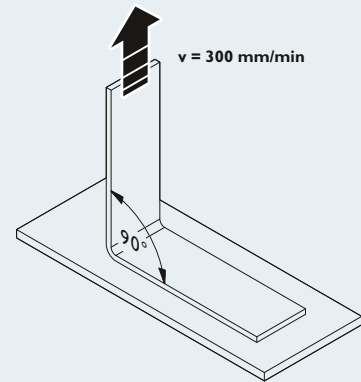
Grid test

▶ DIN EN ISO 2409

A "Sellotape test" is conducted in accordance with this standard. A transparent self-adhesive tape (e.g., Sellotape) with an adhesive force of 10±1 N is applied to the labeling or printing to be tested and is then removed from the surface with an angle of 60° to the pull-out direction with a speed of approx. 1 cm/s.

There should be no marks from the printing on the adhesive tape after the test.

Phoenix Contact marking materials are tough and resistant to peeling.

Pull-out direction

Imprint

≈ 60°

Adhesive tape

Synthetic material
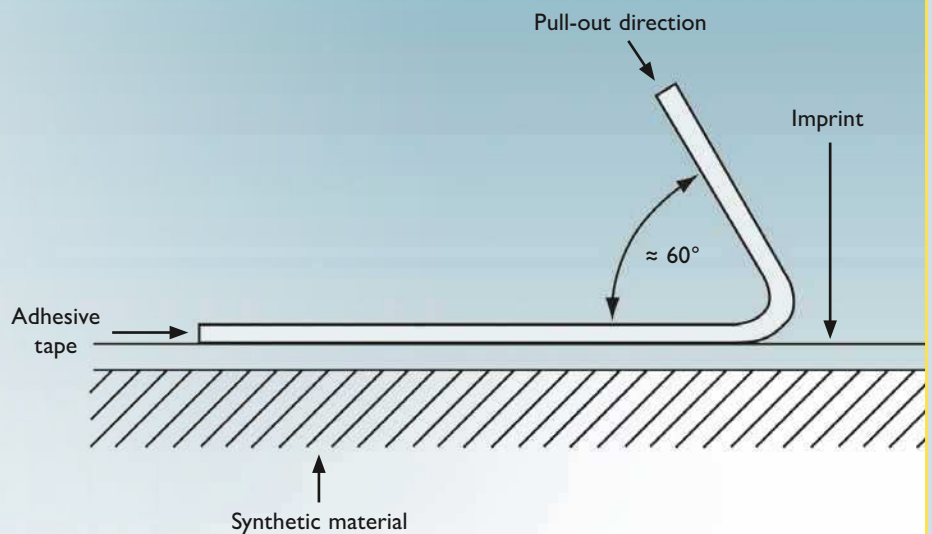
Printed circuit board

Use Phoenix Contact labels for secure and reliable marking of your PCBs.

We can provide ESD-safe materials for labeling and marking components that are particularly sensitive.

Our range features residue-free removable labels for temporary marking during production.

Our high-temperature-resistant material is easily able to withstand the prevailing temperatures in reflow and wave soldering procedures.

Protection against static discharge
ESD-safe labels can be used to mark components and PCBs that are at risk from electrostatic discharge.

Removable labeling
A special adhesive ensures both the durability of the marking throughout the production process and residue-free removal (should this be necessary).

Reliable marking
Labels that are resistant to high temperatures ensure reliable marking of components and PCBs during the production process and beyond.

Product overview for marking PCBs

EML-ESD labels for sensitive components

EML-ESD labels can be used to mark PCBs without the risk of the component being damaged by electrostatic discharge.

Material data EML-ESD
Material: Polyester
Free from silicone and halogen
Temperature: -40 °C to +150 °C

Multi-web version

Single-web version

Lettering field size [mm]	Markers per roll	Type	Order No. WH
Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1			
8x8	4000	EML-ESD (8x8)R	0830564
15x6	4000	EML-ESD (15x6)R	0830565
15x15	4000	EML-ESD (15x15)R	0830566
20x7	4000	EML-ESD (20x7)R	0830567
24x4	4000	EML-ESD (24x4)R	0830568
25x8	4000	EML-ESD (25x8)R	0830569
25.4x12.7	2500	EML-ESD (25,4x12,7)R	0830570
32x10	2500	EML-ESD (32x10)R	0830571
35x6.5	2500	EML-ESD (35x6,5)R	0830572
40x15	2500	EML-ESD (40x15)R	0830573
45x5	2500	EML-ESD (45x5)R	0830574
50x10	1000	EML-ESD (50x10)R	0830575
Large roll, single-web version – printing with THERMOMARK ROLL X1 or with THERMOMARK ROLL with external media hub			
8x8	10000	EML-ESD (8x8)RL-T	0830576
15x6	10000	EML-ESD (15x6)RL-T	0830577
15x15	8000	EML-ESD (15x15)RL-T	0830578
20x7	10000	EML-ESD (20x7)RL-T	0830579
24x4	10000	EML-ESD (24x4)RL-T	0830580
25x8	10000	EML-ESD (25x8)RL-T	0830581
25.4x12.7	10000	EML-ESD (25,4x12,7)RL-T	0830582
32x10	10000	EML-ESD (32x10)RL-T	0830583
35x6.5	10000	EML-ESD (35x6,5)RL-T	0830584
40x15	8000	EML-ESD (40x15)RL-T	0830585
45x5	10000	EML-ESD (45x5)RL-T	0830586
50x10	10000	EML-ESD (50x10)RL-T	0830587

Product overview for marking PCBs

EML-HT labels for high-temperature applications

EML-HT labels are particularly suitable for marking PCBs. As they are resistant to extremely high temperatures (up to 398 °C), they will come through reflow and wave soldering procedures unscathed.

Material data EML-HT

Material: Polyimide
Free from silicone and halogen
Temperature:
-40 °C to +170 °C (permanent
Up to +398 °C (short-term)

	Lettering field size [mm]	Markers per roll	Type	Order No. WH
Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1				
	8x8	4000	EML-HT (8x8) R	0800340
	15x6	4000	EML-HT (15x6)R	0830644
	15x15	4000	EML-HT (15x15) R	0800341
	20x7	4000	EML-HT (20x7)R	0830645
	24x4	4000	EML-HT (24x4)R	0830646
	25x8	4000	EML-HT (25x8)R	0830647
	25.4x12.7	2500	EML-HT (25,4x12,7)R	0830648
	32x10	2500	EML-HT (32x10)R	0830649
	35x6.5	2500	EML-HT (35x6,5)R	0830650
	40x15	1000	EML-HT (40x15) R	0800339
	45x5	2500	EML-HT (45x5) R	0800337
	50x10	1000	EML-HT (50x10) R	0800338
Large roll, single-web version – printing with THERMOMARK ROLL X1 or with THERMOMARK ROLL with external media hub				
	8x8	10000	EML-HT (8x8)RL-T	0830651
	15x6	10000	EML-HT (15x6)RL-T	0830652
	15x15	8000	EML-HT (15x15)RL-T	0830653
	20x7	10000	EML-HT (20x7)RL-T	0830654
	24x4	10000	EML-HT (24x4)RL-T	0830655
	25x8	10000	EML-HT (25x8)RL-T	0830656
	25.4x12.7	10000	EML-HT (25,4x12,7)RL-T	0830657
	32x10	10000	EML-HT (32x10)RL-T	0830658
	35x6.5	10000	EML-HT (35x6,5)RL-T	0830659
	40x15	8000	EML-HT (40x15)RL-T	0830660
	45x5	10000	EML-HT (45x5)RL-T	0830661
	50x10	10000	EML-HT (50x10)RL-T	0830662

Multi-web version

Single-web version

Product overview for marking PCBs

EML-RM removable labels

EML-RM labels can be removed without leaving behind any residue.
As such they are particularly suitable for temporary marking.

Material data EML-RM
Material: Polyester
Free from silicone and halogen
Temperature: -40 °C to +120 °C

Lettering field size [mm]	Markers per roll	Type	Order No. WH
Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1			
8x8	4000	EML-RM (8x8)R	0830528
15x6	4000	EML-RM (15x6)R	0830529
15x15	4000	EML-RM (15x15)R	0830530
20x7	4000	EML-RM (20x7)R	0830531
24x4	4000	EML-RM (24x4)R	0830532
25x8	4000	EML-RM (25x8)R	0830533
25.4x12.7	2500	EML-RM (25,4x12,7)R	0830534
32x10	2500	EML-RM (32x10)R	0830535
35x6.5	2500	EML-RM (35x6,5)R	0830536
40x15	2500	EML-RM (40x15)R	0830537
45x5	2500	EML-RM (45x5)R	0830538
50x10	1000	EML-RM (50x10)R	0830539
Large roll, single-web version – printing with THERMOMARK ROLL X1 or with THERMOMARK ROLL with external media hub			
8x8	10000	EML-RM (8x8)RL-T	0830540
15x6	10000	EML-RM (15x6)RL-T	0830541
15x15	8000	EML-RM (15x15)RL-T	0830542
20x7	10000	EML-RM (20x7)RL-T	0830543
24x4	10000	EML-RM (24x4)RL-T	0830544
25x8	10000	EML-RM (25x8)RL-T	0830545
25.4x12.7	10000	EML-RM (25,4x12,7)RL-T	0830546
32x10	10000	EML-RM (32x10)RL-T	0830547
35x6.5	10000	EML-RM (35x6,5)RL-T	0830548
40x15	8000	EML-RM (40x15)RL-T	0830549
45x5	10000	EML-RM (45x5)RL-T	0830550
50x10	10000	EML-RM (50x10)RL-T	0830551

Multi-web version

Single-web version

Housing marking

Clear housing labels can make your products more successful. Impress your customers with perfectly designed front panels, protect yourself against piracy with anti-forgery rating plates, and ensure traceability with serial numbers that are affixed permanently.

Resistant labels from Phoenix Contact are ideal for use on plastic housings and lend your device a professional design.

High resistance
High-quality materials provide an assurance of high resistance to oils and solvents.

Permanently legible
Housing labels that are wipe-proof and scratch-proof ensure that your product will remain clearly identifiable for its entire service life.

Protection against tampering
As these rating plates clearly show attempts at tampering, they cannot be reused.

Product overview for housing marking

EML rugged polyester labels

EML labels can be used for universal marking. They are particularly resistant to solvents and oils.

Material data EML
Material: Polyester
Free from silicone and halogen
Temperature: -40 °C to +150 °C

Multi-web version

Lettering field size [mm]	Markers per roll	Type	Order No. WH	Order No. YE	Order No. SR
Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1					
10x4	10000	EML (10x4) R	0815583		
10x7	10000	EML (10x7) R …	0816663	0816676	
15x6	2500	EML (15x6) R YE		0819288	
15x9	2500	EML (15x9) R …	0815677	0816045	0816032
16.5x5	2500	EML (16,5x5) R …	0816702	0816728	
16x7	2500	EML (16x7) R …	0818001	0816731	
17.5x8	2500	EML (17,5x8) R …	0816744	0816757	
19x6	2500	EML (19x6) R	0816760	0800107	
20x7	2500	EML (20x7) R YE		0816773	
20x8	2500	EML (20x8) R …	0816786	0816799	
21.5x21.5	2500	EML (21,5x21,5) R SR			0816812
24x4	2500	EML (24x4) R	0800061		
25.4x12.7	2500	EML (25,4x12,7) R …	0816825	0816838	
26.5x7.5	1000	EML (26,5x7,5) R			0816841
26.5x12	2500	EML (26,5x12) R			0816854
26.5x17.5	2500	EML (26,5x17,5) R …		0816896	0816883
26.5x18.5	2500	EML (26,5x18,5) R			0816906
26.5x26.5	2500	EML (26,5x26,5) R …			0816919
30x20	2500	EML (30x20) R …	0816922	0816935	
32x25	1500	EML (32x25) R YE		0800020	
38x17	2500	EML (38x17) R	0816951		
40x8	1000	EML (40x8) R	0816980		
40x15	2500	EML (40x15) R SR			0815729
40x25	1000	EML (40x25) R …	0818027	0816977	
51x25	1000	EML (51x25) R …	0817028	0817031	0817002
70x32	1000	EML (70x32) R …	0817060	0817073	0817057
70x50	400	EML (70x50) R …	0817099		0817086
90x5	2500	EML (90x5) R	0817109		
100x40	300	EML (100x40) R	0800286		
100x73	300	EML (100x73) R …	0817125	0817138	0817112
100x90	250	EML (100x90) R …	0817154		0817141
Large roll – printing with THERMOMARK ROLL X1 or with THERMOMARK ROLL with external media hub					
16.5x5	10000	EML (16,5x5) RL	0816113	0816126	
17.5x8	10000	EML (17,5x8) RL		0816139	
18x6	10000	EML (18x6) RL YE		0828460	
25.4x12.7	10000	EML (25,4x12,7) RL	0816087		
38.1x19	10000	EML (38,1x19) RL	0816171		
50.8x25.4	3000	EML (50,8x25,4) RL	0816184		
69.8x31.8	10000	EML (69,8x31,8) RL	0816197		
76.2x6.5	10000	EML (76,2x6,5) RL YE		0816207	
101.6x25.4	10000	EML (101,6x25,4) RL SR			0815790

Product overview for housing marking

US-EML rugged polyester labels
EML material is also available in card format for printing with the THERMOMARK CARD.

Material data US-EML
Material: Polyester
Free from silicone and halogen
Temperature: -40 °C to +150 °C

Lettering field size [mm]	Markers per card	Type	Order No. WH	Order No. YE	Order No. SR
UniSheet card format – printing with **THERMOMARK CARD**					
17.5x8	80	US-EML (17,5x8)	0800461	0800463	
20x8	64	US-EML (20x8)	0800458	0800460	
104x3.8	34	US-EML (104x3,8)	0800464		
104x140	1	US-EML (104x140)	0800465	0800467	0800466

EML-HA high adhesive strength labels
The particularly high adhesive strength of EML-HA labels makes for optimum adhesion to low-energy materials or materials with complex structures.

Material data EML-HA
Material: Polyester
Free from silicone and halogen
Temperature: -40 °C to +150 °C

Multi-web version

Lettering field size [mm]	Markers per roll	Type	Order No. WH	Order No. SR
Standard roll, multi-web version – printing with **THERMOMARK ROLL** and **THERMOMARK ROLL X1**				
15x9	2500	EML-HA (15x9)R	0830600	
19x6	2500	EML-HA (19x6)R	0830601	
20x20	2500	EML-HA (20x20)R	0830602	
26.5x12	2500	EML-HA (26,5x12)R	0830603	
40x8	2500	EML-HA (40x8)R	0830604	
40x15	1000	EML-HA (40x15)R	0830605	
51x25	1000	EML-HA (51x25)R	0830729	
60x30	1000	EML-HA (60x30)R	0830606	
70x32	1000	EML-HA (70x32)R	0830607	
70x50	1000	EML-HA (70x50)R	0830730	
70x150	250	EML-HA (70x150)R	0830608	
76x51	1000	EML-HA (76x51)R	0830609	
85x32	1000	EML-HA (85x32)R	0830610	
100x73	300	EML-HA (100x73)R	0830731	
100x90	250	EML-HA (100x90)R	0830732	
15x9	2500	EML-HA (15x9)R SR		0830611
19x6	2500	EML-HA (19x6)R SR		0830612
20x20	2500	EML-HA (20x20)R SR		0830613
26.5x12	2500	EML-HA (26,5x12)R SR		0830614
40x8	2500	EML-HA (40x8)R SR		0830615
40x15	1000	EML-HA (40x15)R SR		0830616
51x25	1000	EML-HA (51x25)R SR		0830733
60x30	1000	EML-HA (60x30)R SR		0830617
70x32	1000	EML-HA (70x32)R SR		0830618
70x50	1000	EML-HA (70x50)R SR		0830734
70x150	250	EML-HA (70x150)R SR		0830619
76x51	1000	EML-HA (76x51)R SR		0830620
85x32	1000	EML-HA (85x32)R SR		0830621
100x73	300	EML-HA (100x73)R SR		0830735
100x90	250	EML-HA (100x90)R SR		0830736

Product overview for housing marking

Tamper-proof labels EMLS

EMLS labels show evidence of tampering by leaving behind a pattern both in the label and on the surface of the device.

Material data EMLS
Material: Polyester
Free from silicone and halogen
Temperature: -40 °C to +150 °C

	Lettering field size [mm]	Markers per roll	Type	Order No. SR
Multi-web version	Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1			
	15x9	2500	EMLS (15x9) R SR	0800347
	19x6	2500	EMLS (19x6) R SR	0800343
	20x20	1000	EMLS (20x20) R SR	0800344
	26.5x12	1000	EMLS (26.5x12) R SR	0800353
	38.1x19	1000	EMLS (38.1x19) R SR	0800354
	40x8	1000	EMLS (40x8) R SR	0800348
	45x15	1000	EMLS (45x15) R SR	0800345
	60x30	500	EMLS (60x30) R SR	0800355
	70x32	500	EMLS (70x32) R SR	0800346
	70x150	100	EMLS (70x150) R SR	0800351
	76x51	250	EMLS (76x51) R SR	0800350
	85x32	250	EMLS (85x32) R SR	0800356

EMLC and EMLF labels offering particular flexibility

The material from which the EMLC labels are made makes them very flexible; they can even be attached around edges. EMLF is particularly suited for uneven and rough surfaces.

Material data EMLC
Material: PA
Free from silicone and halogen
Temperature: -40 °C to +150 °C

Material data EMLF
Material: PVC
Free from silicone
Temperature: -40 °C to +110 °C

Lettering field size [mm]	Markers per roll	Type	Order No.			
			WH	YE	SR	TR
Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1						
15x9	2500	EMLC (15x9) R YE		0800236		
17.5x8	2500	EMLC (17,5x8) R YE		0800237		
20x8	2500	EMLC (20x8) R YE	0815680	0800235		
25x8	2500	EMLC (25x8) R YE		0800240		
25.4x12.7	2500	EMLC (25,4x12,7) R YE		0800238		
38x17	1000	EMLC (38x17) R YE		0800557		
40x8	1000	EMLC (40x8) R …	0800554	0800555		
51x25	750	EMLC (51x25) R YE		0800558		

| Lettering field size [mm]	Meter per roll	Type	Order No.			
			WH	YE	SR	TR
Standard roll, continuous version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1						
108xE	40 m	EMLF (108xE) R	0800549	0800550	0800551	0800552

PCB terminal block and plug-in connector marking

TML and SK marker strips from Phoenix Contact are the international industrial standard for marking device connections.

By labeling the connection terminal blocks individually, you simplify the wiring process. Connections are easier to identify and wiring errors are avoided. This increases acceptance of your products by users.
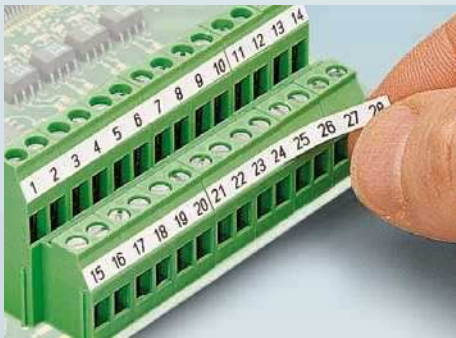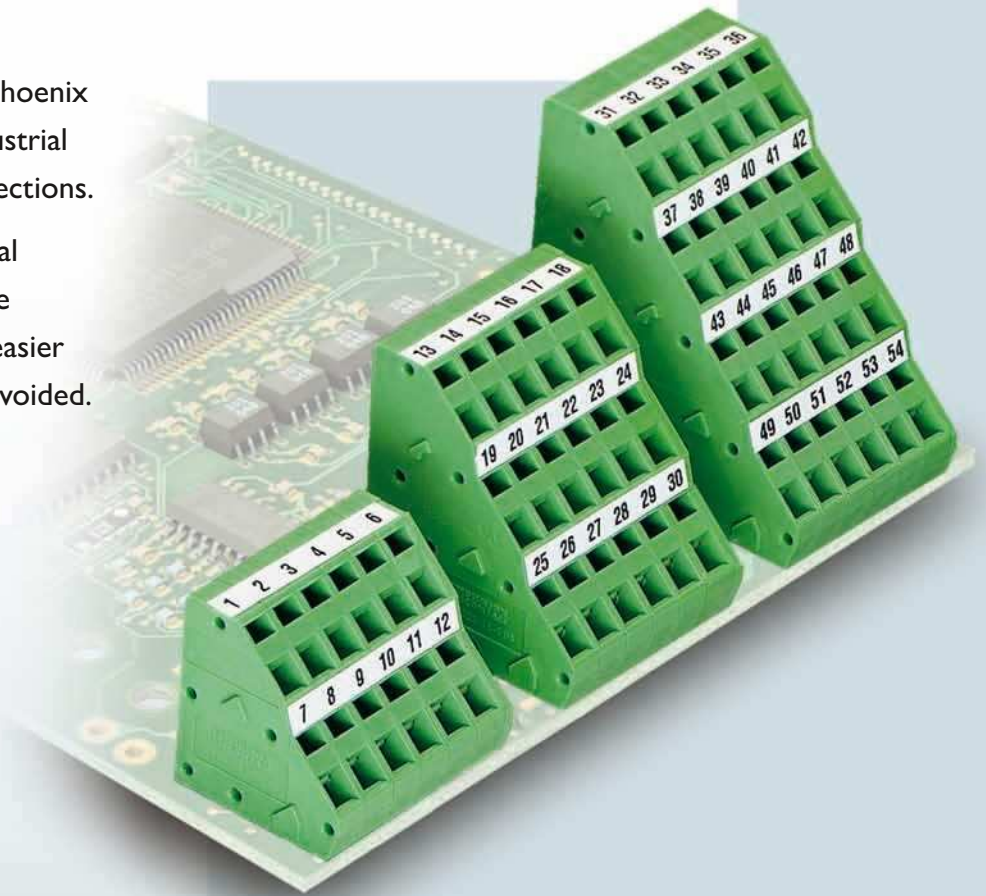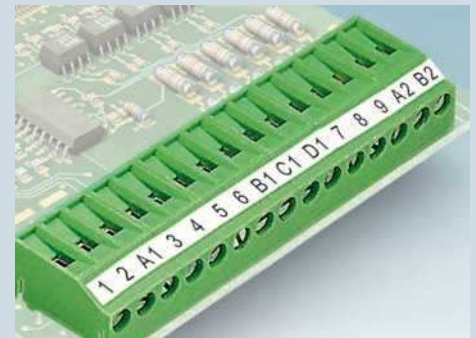
Marking after installation

Unprinted PCB terminal blocks can be labeled quickly and clearly even after they have been installed.
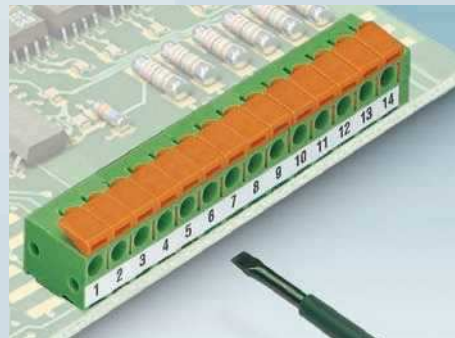
Permanent marking

With TML and SK labeling strips, you get an absolute assurance of optimum adhesion to the high-quality plastics from which your connection terminal blocks are made.

Individual labeling

Even very specific marking requirements such as special symbols can be met with ease.

Product overview for labeling PCB terminal blocks and plug-in connectors

Self-adhesive marker strips for TML and SK terminal blocks

TML and SK strips were developed specifically for marking connection terminal blocks and plugs. They are a reliable option for long-lasting marking.

Material data TML and SK

Material: Polyester
Free from silicone and halogen
Temperature: -40 °C to +150 °C

Height of strip [mm]	Length of strips [mm]	Labels per roll	Type	Order No. WH
Standard roll, strips horizontally on the role – printing with THERMOMARK ROLL and THERMOMARK ROLL X1				
2.8	104	2500	TML (104x2,8) R	0801832
3.8	104	2500	TML (104x3,8) R	0801833
5	104	2500	TML (104x5) R	0801834
10	104	1500	TML (104x10) R	0801835

Height of strip [mm]	Length per roll [m]	Strips per roll	Type	Order No. WH
Standard roll, strips vertically on the role – printing with THERMOMARK ROLL and THERMOMARK ROLL X1				
2.8	30	14	TML (Ex2,8) R	0801836
3.8	30	12	TML (Ex3,8) R	0801837
5	30	10	TML (Ex5) R	0801838
10	30	6	TML (Ex10) R	0801839

Height of strip [mm]	Length of strips [mm]	Strips per card	Type	Order No. WH
UniSheet card format – printing with THERMOMARK CARD				
2.8	104	14	US-TML (104x2,8)	0830767
3.8	104	12	US-TML (104x3,8)	0830768
5	104	10	US-TML (104x5)	0830769
10	104	6	US-TML (104x10)	0830770

Height of strip [mm]	Pitch [mm]	Strips per card	Type	Order No. WH
Cards, preprinted with numbers (1 – 10, 11 – 20, ..., 91 – 100)				
2.8	2.54	14	SK 2,54/2,8:FORTL.ZAHLEN	0804853
2.8	3.5	14	SK 3,5/2,8:FORTL.ZAHLEN	0804073
2.8	3.81	14	SK 3,81/2,8:FORTL.ZAHLEN	0804109
2.8	5.08	14	SK 5,08/2,8:FORTL.ZAHLEN	0804280
3.8	5	12	SK 5/3,8:FORTL.ZAHLEN	0804183
3.8	5.08	12	SK 5,08/3,8:FORTL.ZAHLEN	0804293
3.8	6.2	12	SK 6,2/3,8:FORTL.ZAHLEN	0804374
3.8	7.5	12	SK 7,5/3,8:FORTL.ZAHLEN	0804455
3.8	7.62	12	SK 7,62/3,8:FORTL.ZAHLEN	0804549
5	7.5	10	SK 7,5/5:FORTL.ZAHLEN	0804468
5	7.62	10	SK 7,62/5:FORTL.ZAHLEN	0804552

printed horizontally

1	2	3	4	5	6	7	8	9	10

Example configuration: standard labeling

Horizontal consecutive numbering from 1 to 10 is required for 120 identical PCB terminal block strips with 5 mm pitch. Since each marker card has 12 strips, order as follows:

Quantity	Product no.	Numbers from	Numbers to
10	0804183	1	10

Cable and conductor marking

Phoenix Contact can provide the ideal marking option for any application. Just select an assembly method. The markers can be threaded on, clipped or glued into place, or attached with cable binders.
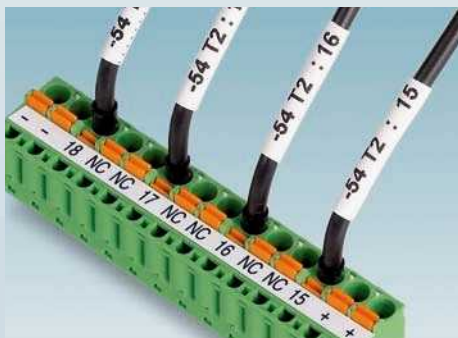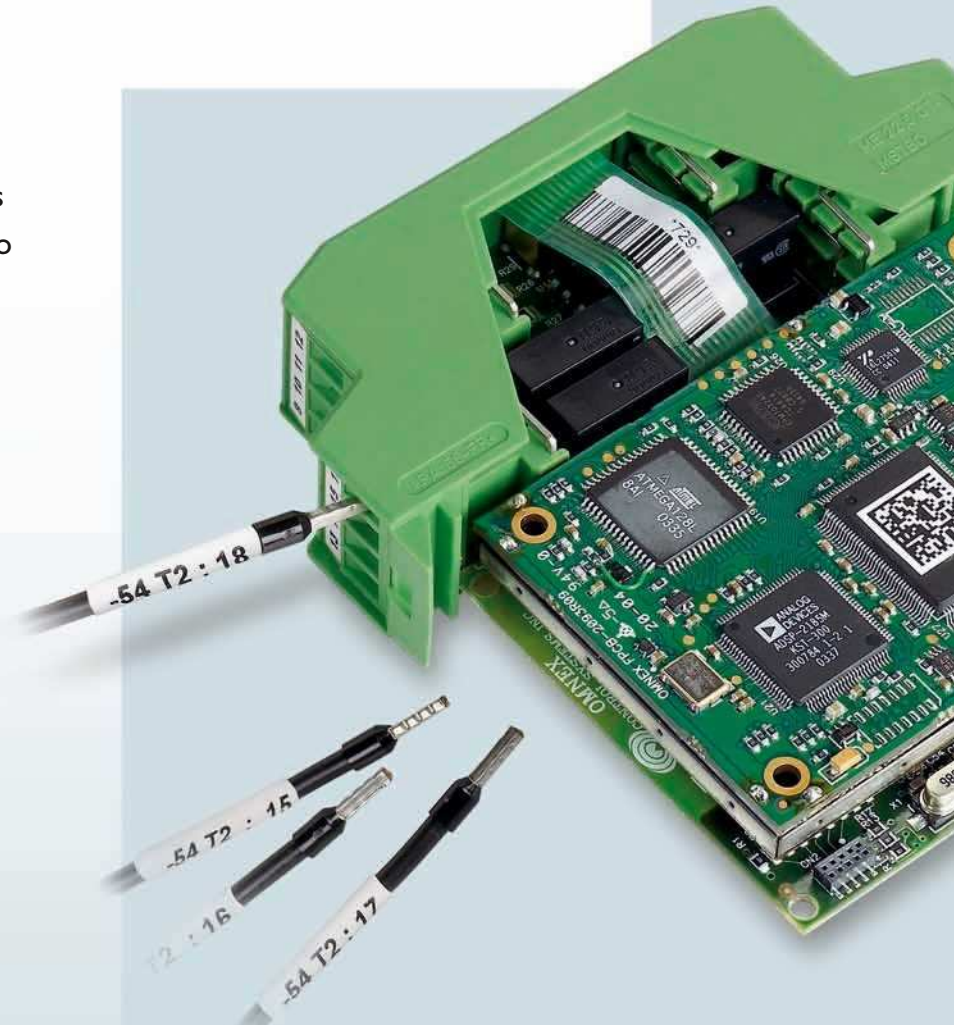
Marking that stays put

Printed shrink sleeve is a particularly durable method of marking.

Fast mounting

Thread-on markers enable multiple wires to be marked in next to no time.

Versatility in application

With self-laminating labels, even flat-ribbon cables can be marked clearly and without abrasion.

Product overview for cable and conductor marking

WMS shrink sleeve (pre-assembled)
The shrinkable WMS marker sleeves are ideally suited to captive cable and conductor marking. The halogen-free, perforated material can be easily separated into smaller sections. They are attached to the conductor by simply threading them on and removing them from the carrier.

Material data WMS
Material: Polyolefine
Free from halogen
Temperature: -55 °C to +135 °C

Conductor diameter [mm]	Lettering field size [mm]	Markers per roll	Type	Order No. WH	Order No. YE
Standard roll – printing with THERMOMARK ROLL X1 or with THERMOMARK ROLL with external media hub					
0.8 – 2.4	15x4	1000	WMS 2,4 (15x4) R	0800379	0800412
0.8 – 2.4	30x4	500	WMS 2,4 (30x4) R	0800373	0800407
0.8 – 2.4	60x4	250	WMS 2,4 (60x4) R	0800363	0800398
1.0 – 3.2	15x5	1000	WMS 3,2 (15x5) R	0800380	0800413
1.0 – 3.2	30x5	500	WMS 3,2 (30x5) R	0800374	0800408
1.0 – 3.2	60x5	250	WMS 3,2 (60x5) R	0800364	0800399
1.6 – 4.8	15x9	1000	WMS 4,8 (15x9) R	0800382	0800414
1.6 – 4.8	30x9	500	WMS 4,8 (30x9) R	0800375	0800409
1.6 – 4.8	60x9	250	WMS 4,8 (60x9) R	0800366	0800400
2.1 – 6.4	30x10	500	WMS 6,4 (30x10) R	0800376	0800410
2.1 – 6.4	60x10	250	WMS 6,4 (60x10) R	0800367	0800401
3.1 – 9.5	30x16	500	WMS 9,5 (30x16) R	0800377	0800411
3.1 – 9.5	60x16	250	WMS 9,5 (60x16) R	0800368	0800402
4.2 – 12.7	60x20	250	WMS 12,7 (60x20) R	0800369	0800403
6.4 – 19.1	60x30	250	WMS 19,1 (60x30) R	0800370	0800404
8.5 – 25.4	60x40	250	WMS 25,4 (60x40) R	0800371	0800405
12.7 – 38.1	60x60	250	WMS 38,1 (60x60) R	0800372	0800406
Large roll – printing with THERMOMARK ROLL X1 and THERMOMARK ROLL with external media hub each					
0.8 – 2.4	15x4	4000	WMS 2,4 (15x4) RL	0800389	
0.8 – 2.4	30x4	2000	WMS 2,4 (30x4) RL	0800386	
0.8 – 2.4	60x4	1000	WMS 2,4 (60x4) RL	0800383	
1.0 – 3.2	15x5	4000	WMS 3,2 (15x5) RL	0800390	
1.0 – 3.2	30x5	2000	WMS 3,2 (30x5) RL	0800387	
1.0 – 3.2	60x5	1000	WMS 3,2 (60x5) RL	0800384	
1.6 – 4.8	15x9	4000	WMS 4,8 (15x9) RL	0800391	
1.6 – 4.8	30x9	2000	WMS 4,8 (30x9) RL	0800388	
1.6 – 4.8	60x9	1000	WMS 4,8 (60x9) RL	0800385	
Extra large roll – printing with THERMOMARK ROLL X1 and THERMOMARK ROLL with external media hub each					
0.8 – 2.4	15x4	10000	WMS 2,4 (15x4) RXL	0800396	
0.8 – 2.4	30x4	5000	WMS 2,4 (30x4) RXL	0800394	
0.8 – 2.4	60x4	2500	WMS 2,4 (60x4) RXL	0800392	
1.6 – 4.8	15x9	10000	WMS 4,8 (15x9) RXL	0800397	
1.6 – 4.8	30x9	5000	WMS 4,8 (30x9) RXL	0800395	
1.6 – 4.8	60x9	2500	WMS 4,8 (60x9) RXL	0800393	

Product overview for cable and conductor marking

WMS shrink sleeve (continuous)

The shrinkable WMS marker sleeves are perfectly suited to captive cable and conductor marking. The shrinkable WMS… marker sleeves are perfectly suited to captive cable and conductor marking. The halogen-free, thin-walled sleeves can be cut to any length using the perforation cutter and are then easy to separate.

Material data WMS
Material: Polyolefine
Free from halogen
Temperature: -55 °C to +135 °C

Conductor diameter [mm]	Length per roll [m]	Type	Order No. WH	Order No. YE	Order No. BK
Standard roll – printing with THERMOMARK ROLL X1 and THERMOMARK ROLL with external media hub each					
0.8 – 2.4	30	WMS 2,4 (Ex4) R	0800289	0800300	0800415
1.0 – 3.2	30	WMS 3,2 (Ex5) R	0800290	0800301	0800416
1.6 – 4.8	30	WMS 4,8 (Ex9) R	0800291	0800302	0800418
2.1 – 6.4	25	WMS 6,4 (Ex10) R	0800292	0800303	0800419
3.1 – 9.5	20	WMS 9,5 (Ex16) R	0800293	0800304	0800421
4.2 – 12.7	20	WMS 12,7 (Ex20) R	0800294	0800305	0800422
6.4 – 19.1	20	WMS 19,1 (Ex30) R	0800295	0800306	0800423
8.5 – 25.4	15	WMS 25,4 (Ex40) R	0800296	0800308	0800424
12.7 – 38.1	15	WMS 38,1 (Ex60) R	0800298	0800309	0800425
16.9 – 50.8	15	WMS 50,8 (Ex80) R	0800299	0800311	0800426
Large roll – printing with THERMOMARK ROLL X1 and THERMOMARK ROLL with external media hub each					
0.8 – 2.4	120	WMS 2,4 (Ex4) RL	0800319	0800328	0800427
1.0 – 3.2	120	WMS 3,2 (Ex5) RL	0800320	0800329	0800428
1.6 – 4.8	120	WMS 4,8 (Ex9) RL	0800321	0800330	0800429
2.1 – 6.4	100	WMS 6,4 (Ex10) RL	0800322	0800331	0800430
3.1 – 9.5	80	WMS 9,5 (Ex16) RL	0800324	0800332	0800431
4.2 – 12.7	80	WMS 12,7 (Ex20) RL	0800325	0800333	0800432
6.4 – 19.1	80	WMS 19,1 (Ex30) RL	0800326	0800334	0800434
8.5 – 25.4	60	WMS 25,4 (Ex40) RL	0800327	0800335	0800435

Product overview for cable and conductor marking

WML and US-WML labels for cable lamination

The conductor marker labels consist of a labeling field and a transparent protective foil. This is wound over the labeling and protects it permanently against contamination and abrasion.
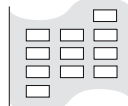
Material data WML
Material: PVC
Free from silicone
Temperature: -50 °C to +70 °C

Material data US-WML
Material: PVC
Free from silicone
Temperature: -50 °C to +70 °C

Conductor diameter [mm]	Lettering field size [mm]	Markers per roll	Type	Order No. WH	Order No. YE
Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1					
< 3	13x10	5000	WML 3 (13x10) R	0800073	
< 5	25x10	3000	WML 5 (25x10) R	0817523	0830673
< 6	13x13	7000	WML 6 (13x13) R	0816252	0830674
< 7.5	13x13	4000	WML 7,5 (13x13) R	0800074	
< 7.5	17x9	1500	WML 7,5 (17x9) R	0828444	
< 7.5	25x13	2100	WML 7,5 (25x13) R	0800075	
< 12	25x19	1000	WML 12 (25x19) R	0800076	
< 14	25x19	1500	WML 14 (25x19) R	0817536	0817549
< 14	38x19	1000	WML 14 (38x19) R	0817552	0830675
< 18	12x12	2500	WML 18 (12x12) R	0817507	
< 20	31x25	500	WML 20 (31x25) R	0828457	
< 22	25x25	900	WML 22 (25x25) R	0800078	
< 36	25x38	500	WML 36 (25x38) R	0817510	
< 36	25x38	500	WML 36 (25x38) R	0817510	
< 46	25x38	250	WML 46 (25x38) R	0800067	
Large roll, single-web version – printing with THERMOMARK ROLL X1 or with THERMOMARK ROLL with external media hub					
< 5	25x10	10000	WML 5 (25x10) RL	0830676	
< 6	13x13	15000	WML 6 (13x13) RL	0830677	
< 14	25x19	5000	WML 14 (25x19) RL	0830678	
< 14	38x19	3000	WML 14 (38x19) RL	0830679	

Multi-web version

Single-web version

Conductor diameter [mm]	Lettering field size [mm]	Markers per card	Type	Order No. WH	Order No. YE
UniSheet card format – printing with THERMOMARK CARD					
< 6	13x13	32	US-WML 6 (13x13)	0800472	
< 14	25x19	8	US-WML 14 (25x19)	0800473	
< 36	25x25	4	US-WML 36 (25x25)	0800474	

Product overview for cable and conductor marking

WMT thread-on markers

WMT markers are made of polyester foil. They are used to label conductors. The printed individual markers thread onto the conductor easily and are captively mounted.

Material data WMT
Material: Polyester
Free from silicone an halogen
Temperature: -40 °C to +120 °C

Conductor diameter [mm]	Lettering field size [mm]	Markers per roll	Type	Order No.	
				WH	YE
Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1					
1.0 – 2.4	15x4	4000	WMT 2,4 (15x4) R	0816281	
2.0 – 3.5	15x5	4000	WMT 3,5 (15x5) R	0817222	
3.0 – 4.2	15x6	4000	WMT 4,2 (15x6) R	0817235	
4.0 – 5.5	15x8	4000	WMT 5,5 (15x8) R	0817248	
5.0 – 8.4	17x10	4000	WMT 8,4 (17x10) R	0817251	

Multi-web version

UCT-WMS thread-on markers

UCT-WMS markers thread onto the conductor easily. They are held securely in place by three internal studs. UCT-WMS sheets are printed using the THERMOMARK CARD printer with UCT magazine 3.

Material data UCT-WMS
Material: PC V0
Free from silicone an halogen
Temperature: -40 °C to +120 °C

Conductor diameter [mm]	Lettering field size [mm]	Markers per card	Type	Order No.	
				WH	YE
UniCard card format – printing with THERMOMARK CARD					
1.5 – 3.2	12x4	55	UCT-WMS 3,2 (12x4)…	0828570	0828572
2.5 – 4.7	12x5.5	45	UCT-WMS 4,7 (12x5,5)	0828571	0828573
Magazine		THERMOMARK CARD UCT-MAG3		5146613	

Product overview for cable and conductor marking

Marking for for attachment using cable binders WMTB, US-WMTB, and WMTB-HF

WMTB marking labels are attached with cable binders. As such, they can be used to label conductors after they have been connected. US-WMTB is an alternative in UniSheet card format. WMTB-HF are manufactured from polyurethane so are particularly flexible.

Material data
WMTB free from silicone and halogen
Material: Polyester   -40 to +120 °C
US-WMTB free from silicone
Material: Polyester   -30 to +80 °C
WMTB-HF free from halogen
Material: PUR   -25 to +80 °C

Conductor diameter [mm]	Lettering field size [mm]	Markers per roll	Type	Order No. WH	Order No. YE
Standard roll, multi-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1				
> 6	24x8	4000	WMTB (24x8) R	0816278	
> 6	35x15	1700	WMTB (35x15) R	0817316	
Standard roll, single-web version – printing with THERMOMARK ROLL and THERMOMARK ROLL X1				
> 6	40x12	1000	WMTB-HF (40x12) R	0830407	0830408
> 6	55x15	1000	WMTB-HF (55x15) R	0830409	0830410
> 6	55x25	500	WMTB-HF (55x25) R	0830411	0830412

Conductor diameter [mm]	Lettering field size [mm]	Markers per card	Type	Order No. WH	Order No. YE
UniSheet card format – printing with THERMOMARK CARD				
> 4	24x5	35	US-WMTB (24x5)	0828771	0828958
> 6	29x8	24	US-WMTB (29x8)	0828772	0828959
> 6	44x15	12	US-WMTB (44x15)	0828773	0828960

WT cable binders

Cable binders have been used for decades for binding control lines and cables. They are ideal for fixing cables and as an accessory for various cable markers.

Material data WT
Material: Polyamide
Free from silicone and halogen
Temperature: -40 °C to +85 °C

Length/width [mm]	Pcs. / Pkt.	Color	Type	Order No.
98x2,5	1000	transparent	WT-HF 2,5X98-L	3240735
160x2,6	1000	transparent	WT-HF 2,6X160-L	3240739
200x2,6	1000	transparent	WT-HF 2,6X200-L	3240743
140x3,6	1000	transparent	WT-HF 3,6X140-L	3240747
200x3,6	1000	transparent	WT-HF 3,6X200-L	3240751
290x3,6	1000	transparent	WT-HF 3,6X290-L	3240755
160x4,5	1000	transparent	WT-HF 4,5X160-L	3240759
200x4,5	1000	transparent	WT-HF 4,5X200-L	3240763
98x2,5	1000	black	WT-HF 2,5X98 BK-L	3240734
160x2,6	1000	black	WT-HF 2,6X160 BK-L	3240738
200x2,6	1000	black	WT-HF 2,6X200 BK-L	3240742
140x3,6	1000	black	WT-HF 3,6X140 BK-L	3240746
200x3,6	1000	black	WT-HF 3,6X200 BK-L	3240750
290x3,6	1000	black	WT-HF 3,6X290 BK-L	3240754
160x4,5	1000	black	WT-HF 4,5X160 BK-L	3240758
200x4,5	1000	black	WT-HF 4,5X200 BK-L	3240762