

TMS-SCE Military grade heat shrinkable wire identification sleeves

TMS-SCE marker sleeves are designed to meet the wire and cable marking needs of manufacturers with high performance requirements. Made from durable, flame retarded, radiation-crosslinked heat-shrinkable polyolefin, TMS-SCE marker sleeves can be used in a wide variety of applications. The marker sleeves meet the performance requirements of SAE-AMS- DTL-23053/5 classes 1 and 3 and the TMS-SCE-2X products are made from tubing fully compliant with this specification. The marks are permanent immediately after printing and remain legible even when exposed to abrasion, aggressive cleaning solvents, and military fuels and oils. The sleeves meet the mark permanence requirements of SAE AS81531 4.6.2 and MIL-STD-202F both before and after shrinking.

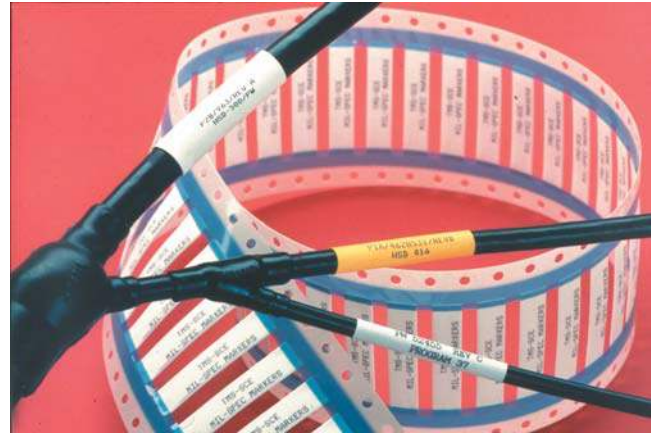
Both 2:1 and 3:1 shrink ratios are available. The 2:1 products provide a thick, rugged sleeve wall and are particularly easy to handle. The lightweight 3:1 products provide extremely fast shrinking and cover a wider range of wire diameters, thus simplifying inventory.

The marker sleeves are designed to be printed by computer-driven dot matrix or thermal transfer printers, providing several advantages in terms of reduced errors, cycle time and cost.

Supplied in a thin, flat "ladder" format, the sleeves are held horizontally between two hole-punched polyester strips. This configuration feeds directly from the storage box into a Tyco Electronics-recommended printer. Tyco Electronics-recommended ribbons should always be used. The ladder format provides automatic kitting of the marker sleeves in the desired sequence. A standard heat gun with reflector is used to shrink the sleeves onto the wire or cable.

Features and benefits

- Permanent identification sleeves.
- Computer-printable.
- Lightweight for aerospace applications.
- Military specification material and print performance.
- 2:1 and 3:1 shrink ratio.
- CSA Certified.
- UL Recognized, VW all flame tubing test rated.
- Quick recovery for heat sensitive areas.



Temperature rating

Operating temperature range	-55°C to +135°C	-67°F to +275°F
Minimum recovery temperature	+85°C	+185°F
Maximum storage temperature	+40°C	+104°F

Specifications/approvals

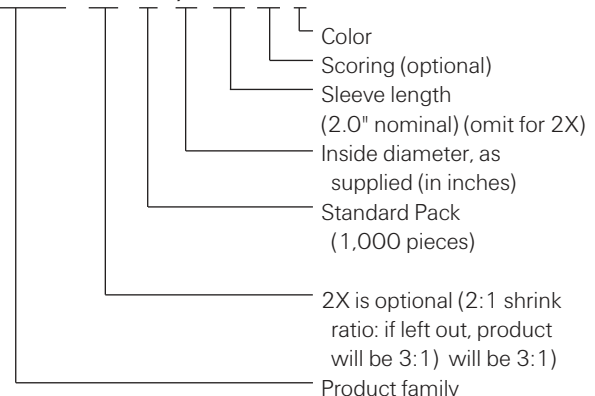
Tyco Electronics	RW-2511
Military	SAE-AMS-DTL-23053/5 classes 1 and 3, SAE AS81531 4.6.2, MIL-STD-202F Method 215J
Industry	UL Recognized – Standard 224, file E35586 CSA Certified – File 31929

Printer information

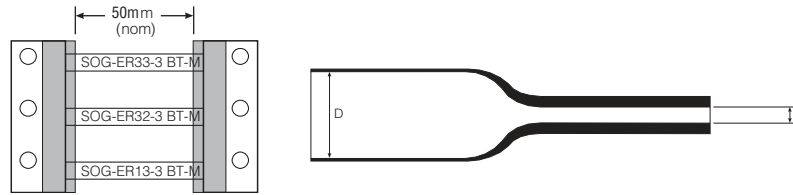
Tyco Electronics printer	AM6310 (dot matrix) T200 Series (thermal transfer, low volume) T312M (thermal transfer)
Tyco Electronics ribbon	1892BK04-RIBBON (dot matrix) TMS-101-RIBBON-4RPSCE (thermal transfer for T208M) TMS-RJS-RIBBON-4RPSCE (thermal transfer for T312M)

Part numbering system

TMS-SCE - 2X - 1K¹/₈ - 2.0-S1-9



Ordering information



Available sizes and formats

Ordering description	Inside diameter				Recommended use range	Recovered wall thickness		Weight (g/10 pcs.)	
	Expanded D (minimum)		Recovered d (maximum)						
	mm	inches	mm	inches		mm	inches		
TMS-SCE-1K- ³ / ₃₂ -2.0- <color>	2.36	0.093	0.79	0.031	0.81 - 1.90	0.032 - 0.075	0.53 ± 0.08	0.021 ± 0.003	1.50
TMS-SCE-2X-1K- ³ / ₃₂ - <color>	2.36	0.093	1.17	0.046	1.27 - 1.90	0.050 - 0.075	0.64 ± 0.08	0.025 ± 0.003	2.04
TMS-SCE-1K- ¹ / ₈ -2.0- <color>	3.18	0.125	1.07	0.042	1.11 - 2.66	0.044 - 0.105	0.58 ± 0.08	0.023 ± 0.003	2.03
TMS-SCE-2X-1K- ¹ / ₈ - <color>	3.18	0.125	1.58	0.062	1.75 - 2.66	0.069 - 0.105	0.64 ± 0.08	0.025 ± 0.003	2.75
TMS-SCE-1K- ³ / ₁₆ -2.0- <color>	4.75	0.187	1.57	0.062	1.75 - 4.06	0.069 - 0.160	0.58 ± 0.08	0.023 ± 0.003	2.68
TMS-SCE-2X-1K- ³ / ₁₆ - <color>	4.75	0.187	2.36	0.093	2.54 - 4.06	0.100 - 0.160	0.64 ± 0.08	0.025 ± 0.003	3.62
TMS-SCE-1K- ¹ / ₄ -2.0- <color>	6.35	0.250	2.11	0.083	2.31 - 5.46	0.091 - 0.215	0.58 ± 0.08	0.023 ± 0.003	3.51
TMS-SCE-2X-1K- ¹ / ₄ - <color>	6.35	0.250	3.18	0.125	3.81 - 5.46	0.150 - 0.215	0.64 ± 0.08	0.025 ± 0.003	5.94
TMS-SCE-1K- ³ / ₈ -2.0- <color>	9.53	0.375	3.18	0.125	3.47 - 8.12	0.137 - 0.320	0.61 ± 0.08	0.024 ± 0.003	5.04
TMS-SCE-2X-1K- ³ / ₈ - <color>	9.53	0.375	4.75	0.187	5.59 - 8.12	0.220 - 0.320	0.64 ± 0.08	0.025 ± 0.003	8.50
TMS-SCE-1K- ¹ / ₂ -2.0- <color>	12.70	0.500	4.22	0.166	4.64 - 10.79	0.183 - 0.425	0.61 ± 0.08	0.024 ± 0.003	6.81
TMS-SCE-2X-1K- ¹ / ₂ - <color>	12.70	0.500	6.35	0.250	6.99 - 10.79	0.275 - 0.425	0.64 ± 0.08	0.025 ± 0.003	11.45
TMS-SCE-1K-- ³ / ₄ -2.0- <color>	19.05	0.750	6.35	0.250	6.99 - 16.25	0.275 - 0.640	0.61 ± 0.08	0.024 ± 0.003	12.03
TMS-SCE-2X-1K- ³ / ₄ - <color>	19.05	0.750	9.53	0.375	10.16 - 16.25	0.400 - 0.640	0.76 ± 0.08	0.030 ± 0.003	20.63
TMS-SCE-1K-1-2.0- <color>	25.40	1.000	8.46	0.333	9.29 - 21.59	0.366 - 0.850	0.64 ± 0.08	0.025 ± 0.003	15.35
TMS-SCE-1K-1 ¹ / ₂ -2.0- <color>	38.10	1.500	19.05	0.750	20.95 - 33.02	0.825 - 1.300	0.51 ± 0.08	0.020 ± 0.003	27.51
TMS-SCE-1K-2-2.0- <color>	50.80	2.000	25.40	1.000	27.94 - 44.95	1.100 - 1.750	0.64 ± 0.08	0.025 ± 0.003	47.27
TMS-SCE-1K-2 ¹ / ₄ -2.0- <color>	57.15	2.250	19.05	0.750	22.32 - 50.80	0.880 - 2.000	0.76 ± 0.08	0.030 ± 0.003	42.06

Total width as supplied 90.18 mm (3.550 inches) including tape and carrier width.

Options

Prescoring	Perforated score to produce multiple markers from each sleeve.								
	Number of prescores	1 prescore			2 prescores		3 prescores		
	Code	S1			S2		S3		
Package sizes	Standard	1K - 1000-piece packs							
	Nonstandard	Smaller and larger pack sizes are available. Please contact Tyco Electronics.							
	Fanfolded	Fanfolded option available for use with dot matrix printers							
Colors	Standard	Yellow	White						
	Code	4	9						
	Nonstandard	Red	Pink	Orange	Green	Blue	Violet	Gray	Black
	Code	2	2L	3	5	6	7	8	0

Note: 2X products meet the color requirements of MIL-STD-104 class 1; otherwise colors are pastel for print contrast.

Ordering information: Specify product name, pack size, sleeve size, prescore format, and color.

Ordering example: TMS-SCE-1K-¹/₈-2.0-S1-9 (scored once)

CM-SCE Polyolefin tie-on cable marker tags

CM-SCE markers are flat, rigid, non-adhesive labels that can be used to identify large cables and wire bundles in environments such as military and aerospace. Marker tags are applied to cables or wire bundles with cable ties.

Print performance meets or exceeds the requirements of SAE AS81531 4.6.2 and MIL-STD-202F.

Features and benefits

- Side entry provides access to big size and wire bundles as well as retrofit and repair capability.
- Highly flame-retardant.
- Highly resistant to abrasion, mechanical abuses, fluids, lubricants and solvents.
- Ease of use: markers can be easily removed from the carrier.
- Easy installation: only standard cable tie-wraps are needed to install markers. No extra steps required.
- Excellent print permanence when printing on the rough side of the marker.



Temperature rating

Operating temperature range -55°C to +135°C -67°F to +275°F

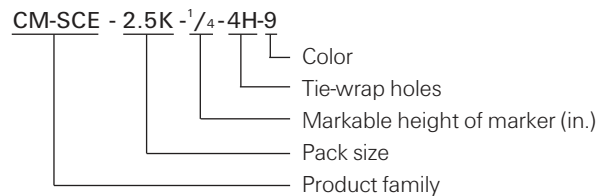
Specifications/approvals

Tyco Electronics RW-2513
 Military Mark permanence: SAE AS81531 4.6.2
 Solvent resistance: MIL-STD-202F
 Method 215J

Printer information

Tyco Electronics printer AM6310 (dot matrix)
 T312M (thermal transfer)
 Tyco Electronics ribbon 1892BK04-RIBBON (dot matrix) (dot matrix)
 1966-RIBBON (thermal transfer)

Part numbering system



Ordering information

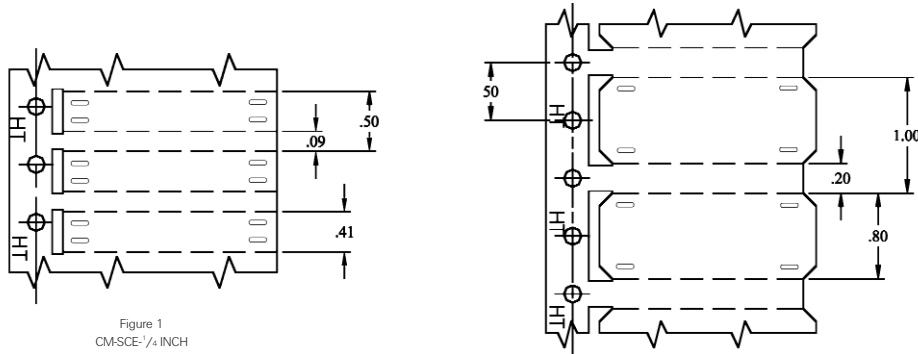


Figure 1
CM-SCE-1/4-INCH

Available sizes and formats

Ordering description	Size	Markable height		Markable length		Recommended use range	
		mm	<i>inches</i>	mm	<i>inches</i>	mm	<i>inches</i>
CM-SCE-1/4-6H- <color>	1/4	6.40	<i>0.250</i>	50.80	<i>2.000</i>	5.08 – 12.50	<i>0.200 – 0.492</i>
CM-SCE-1/4-4H- <color>	1/4	6.40	<i>0.250</i>	50.80	<i>2.000</i>	5.08 – 12.50	<i>0.200 – 0.492</i>
CM-SCE-TP-1/4-4H- <color>*	1/4	6.40	<i>0.250</i>	50.80	<i>2.000</i>	5.08 – 12.50	<i>0.200 – 0.492</i>
CM-SCE-1/2-4H- <color>	1/2	12.70	<i>0.500</i>	50.80	<i>2.000</i>	12.50 and up	<i>0.492 and up</i>
CM-SCE-TP-1/2-4H- <color>*	1/2	12.70	<i>0.500</i>	50.80	<i>2.000</i>	12.50 and up	<i>0.492 and up</i>
CM-SCE-1/2-6H- <color>	1/2	12.70	<i>0.500</i>	50.80	<i>2.000</i>	12.50 and up	<i>0.492 and up</i>
CM-SCE-TP-1/2-6H- <color>*	1/2	12.70	<i>0.500</i>	50.80	<i>2.000</i>	12.50 and up	<i>0.492 and up</i>

* for thermal transfer printing

Options

Tie-wrap holes	1/4-inch tags	Four holes standard
	1/2-inch tags	Four holes Six holes
	Code	4H 6H
Fanfold	Code	Fx (substitute package size code for "x")
Package sizes	Standard	250 pieces
Colors	Standard	White
	Code	9
	Nonstandard	Yellow
	Code	4

Ordering information: Specify product name, markable height of marker, pack size, number of tie wraps and color.

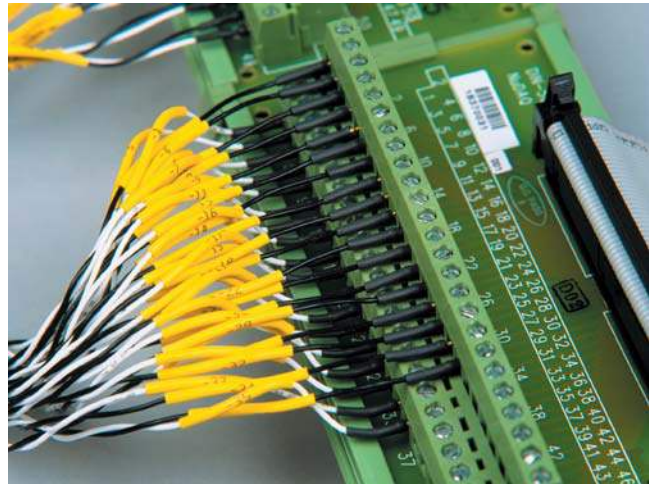
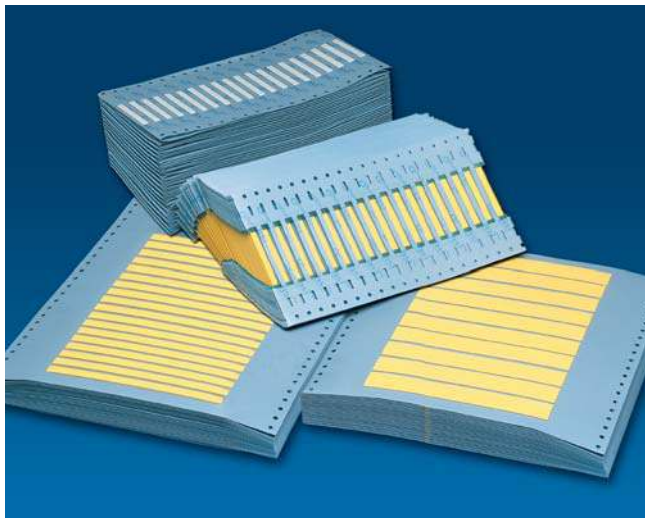
Ordering example: CM-SCE-2.5K-1/4-4H-9

HS 2:1 Shrink ratio heat shrinkable wire identification system

HS sleeves are thin wall, flame retarded radiation cross-linked polyolefin heat-shrinkable tubing, assembled as organized cut sleeves on a paper carrier. HS products are 2:1 shrink ratio. They are used in identification of wires and cables by computer-based printing onto sleeves. These products are suited to a wide variety of applications, including those with military standard requirements. The products meet the material and performance requirements of SAE AMS-DTL-23053/5 class 1.

Features and benefits

- Shrink ratio of 2:1 recovers to half of supplied diameter. Contact Tyco Electronics for 3:1 option.
- Comes in several sleeve lengths: 38mm, 50mm and 152mm.
- Sleeve diameter from 0.093" to 1.5" (2.4mm to 38.1mm).
- Flame retarded – meets ASTM D 2671 and UL 224 (clause 14) standards.
- Single sided and double sided printing formats available.
- Standard dot matrix printable. Contact Tyco Electronics for thermal printable options.
- Heat resistance: +175°C (+347°F) for 168 hours or +250°C (+482°F) for 4 hours with no deterioration of properties.
- Concentricity: 70% minimum for low distortion of legends.
- Easy-to-use fan-fold format for improved kitting and marker selection.



Temperature rating

Operating temperature range	-55°C to +135°C	-67°F to +275°F
Minimum recovery temperature	+120°C	+248°F
Maximum storage temperature	+40°C	+104°F

Specifications/approvals

Tyco Electronics	TTDS-033
Military	SAE AMS-DTL-23053/5 Class 1 (material and performance) SAE AS81531 4.6.2 MIL-STD-202F Method 215J
Industry	ASTM D 2671 UL 224 (clause 14)

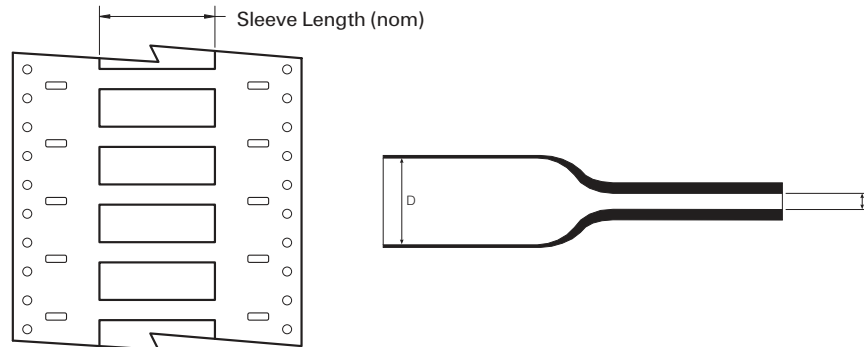
Printer information

Tyco Electronics printer	AM6310 (dot matrix)
Tyco Electronics ribbon	1892BK03 (dot matrix – high performance) 1892BK04 (dot matrix)

Part numbering system

HS-048-YW-1-NF-050-B	
HS	Product family
048	Inside diameter as supplied (mm)
YW	Color
1	Scoring
NF	Format
050	Sleeve length (mm)
B	Pack size

Ordering information



Available sizes and formats

Ordering description	Inside diameter				Recommended use range	Pack size (uncut sleeves)			
	D (min) As supplied		d (max) After recovery			NF(B)	DS(B)	WF(B)	
	mm	inches	mm	inches		38 and 50mm lengths		152 mm lengths	
HS024- <color-prescore-format-length-pack size>2.40	0.093		1.17	0.050	1.27-1.90	0.050-0.075	1650	1100	N/A
HS032- <color-prescore-format-length-pack size>3.20	0.126		1.58	0.060	1.75-2.66	0.069-0.105	1100	1100	550
HS048- <color-prescore-format-length-pack size>4.80	0.189		2.36	0.090	2.54-4.06	0.100-0.160	1100	1100	500
HS064- <color-prescore-format-length-pack size>6.35	0.250		3.18	0.125	3.81-5.46	0.150-0.215	550	550	500
HS095- <color-prescore-format-length-pack size>9.53	0.374		4.75	0.187	5.59-8.12	0.220-0.320	550	550	275
HS127- <color-prescore-format-length-pack size>12.70	0.500		6.35	0.250	6.99-10.79	0.275-0.425	550	300	250
HS190- <color-prescore-format-length-pack size>19.05	0.750		9.53	0.375	10.16-16.25	0.400-0.640	300	300	175
HS254- <color-prescore-format-length-pack size>25.40	1.000		12.70	0.500	9.29-21.59	0.366-0.850	300	300	125
HS381- <color-prescore-format-length-pack size>38.10	1.500		19.05	0.750	20.95-22.02	0.825-1.300	100	100	75

Options

Prescoring	Perforated score to produce multiple marker sleeves from each HS.					
	Number of prescores	0 prescores	1 prescore	2 prescores	3 prescores	5* prescores
	Markers per sleeve	1	2	3	4	6*
	Code	1	2	3	4	6*
*Wide format only						
Package sizes	B	Standard for narrow format: NF (single sided) and DS (double sided)				
	X	Bulk for narrow format (contains double the number of markers in a narrow format B pack): NF (single sided)				
	B	Standard for wide format: WF (single sided)				
Colors	Standard	White	Yellow			
	Code	WE	YW			
Format	NF	Single-sided printing – narrow format				
	DS	Double-sided printing – narrow format				
	WF	Single-sided printing – wide format				
Uncut sleeve length	038	38 mm (1.5") – narrow format		Ordering example: HS032WE2NF038B		
	050	50 mm (2") – narrow format		Ordering example: HS064YW3NF050X		
	152	152 mm (6") – wide format		Ordering example: HS095WE6WF152B		

Ordering information: Specify product name, color, prescores, format, sleeve length and pack size.

Ordering example: HS032WE2NF038B

HL Tie-on cable marker tags

Used to identify large cables and bundles either pre- or post-termination, these flame retarded HL cable markers are suitable for use in environments with temperatures of -55°C to $+135^{\circ}\text{C}$ (-67°F to $+275^{\circ}\text{F}$). The markers are easily applied with standard cable ties.

HL markers are presented as organized markers assembled onto either a fanfolded or reeled paper carrier for ease of selection and kitting and are available in an extensive range of sizes.

They are available with the surface designed for either dot matrix or thermal transfer printers.

Features and benefits

- Recommended for use where de-termination of wires is not possible for large ID wires or wire bundles.
- Heat resistant to $+175^{\circ}\text{C}$ for 168 hours or $+250^{\circ}\text{C}$ for 4 hours with no deterioration in properties.
- Several printable widths and heights available.
- Non-standard color options available.



Temperature rating

Operating temperature range	-55°C to $+135^{\circ}\text{C}$	-65°F to $+275^{\circ}\text{F}$
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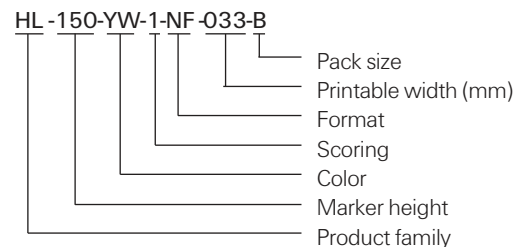
Specifications/approvals

Tyco Electronics	TTDS-037
Military	SAE AS81531 4.6.2 MIL-STD-202F Method 2.15J
Industry	UL 224 (clause 14) ASTM D 2671

Printer information

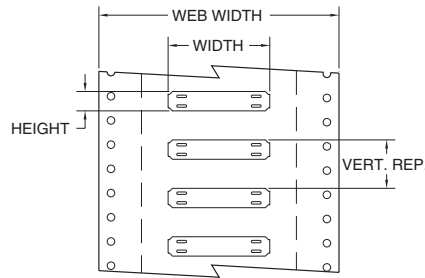
Tyco Electronics printer	AM 6310 (dot matrix) T312M (thermal transfer)
Tyco Electronics ribbon	1892BK04 (dot matrix – high performance) 1950-RIBBON-4T300 (thermal transfer)

Part numbering system



HL Tie-on cable marker tags (Cont'd)

Ordering information



Available sizes and formats

Ordering description	Marker dimensions (W X H)		Printable area (W X H)		Pack size	
	mm	<i>inches</i>	mm	<i>inches</i>	NF	TS
HL104<color>1<format>025B	45.00 x 10.40	<i>1.800 x 0.400</i>	25.00 x 10.40	<i>1.000 x 0.400</i>	550	1000
HL104<color>1<format>033B	52.00 x 10.40	<i>2.100 x 0.400</i>	33.00 x 10.40	<i>1.300 x 0.400</i>	550	1000
HL104<color>1<format>038B	58.00 x 10.40	<i>2.300 x 0.400</i>	38.00 x 10.40	<i>1.500 x 0.400</i>	550	1000
HL104<color>1<format>050B	70.00 x 10.40	<i>2.750 x 0.400</i>	50.00 x 10.40	<i>2.000 x 0.400</i>	550	1000
HL104<color>1<format>070B	90.00 x 10.40	<i>3.500 x 0.400</i>	70.00 x 10.40	<i>2.750 x 0.400</i>	550	1000
HL150<color>1<format>025B	45.00 x 15.00	<i>1.800 x 0.600</i>	25.00 x 15.00	<i>1.000 x 0.600</i>	550	500
HL150<color>1<format>033B	52.00 x 15.00	<i>2.100 x 0.600</i>	33.00 x 15.00	<i>1.300 x 0.600</i>	550	500
HL150<color>1<format>038B	58.00 x 15.00	<i>2.300 x 0.600</i>	38.00 x 15.00	<i>1.500 x 0.600</i>	550	500
HL150<color>1<format>050B	70.00 x 15.00	<i>2.750 x 0.600</i>	50.00 x 15.00	<i>2.000 x 0.600</i>	550	500
HL150<color>1<format>070B	90.00 x 15.00	<i>3.500 x 0.600</i>	70.00 x 15.00	<i>2.750 x 0.600</i>	550	500
HL203<color>1<format>025B	45.00 x 20.30	<i>1.800 x 0.800</i>	25.00 x 20.30	<i>1.000 x 0.800</i>	550	500
HL203<color>1<format>033B	52.00 x 20.30	<i>2.100 x 0.800</i>	33.00 x 20.30	<i>1.300 x 0.800</i>	550	500
HL203<color>1<format>038B	58.00 x 20.30	<i>2.300 x 0.800</i>	38.00 x 20.30	<i>1.500 x 0.800</i>	550	500
HL203<color>1<format>050B	70.00 x 20.30	<i>2.750 x 0.800</i>	50.00 x 20.30	<i>2.000 x 0.800</i>	550	500
HL203<color>1<format>070B	90.00 x 20.30	<i>3.500 x 0.800</i>	70.00 x 20.30	<i>2.750 x 0.800</i>	550	500
HL253<color>1<format>025B	45.00 x 25.30	<i>1.800 x 1.000</i>	25.00 x 25.30	<i>1.000 x 1.000</i>	300	250
HL253<color>1<format>033B	52.00 x 25.30	<i>2.100 x 1.000</i>	33.00 x 25.30	<i>1.300 x 1.000</i>	300	250
HL253<color>1<format>038B	58.00 x 25.30	<i>2.300 x 1.000</i>	38.00 x 25.30	<i>1.500 x 1.000</i>	300	250
HL253<color>1<format>050B	70.00 x 25.30	<i>2.750 x 1.000</i>	50.00 x 25.30	<i>2.000 x 1.000</i>	300	250
HL253<color>1<format>070B	90.00 x 25.30	<i>3.500 x 1.000</i>	70.00 x 25.30	<i>2.750 x 1.000</i>	300	250

Options

Prescoring	Not available on these products – this should always be 1.		
Package sizes	Standard	B	
Colors	Standard	White	Yellow
	Code	WE	YW
	Nonstandard	Red	Blue
	Code	RD	BE
Format	NF – Dot matrix printing (fanfold/single sided)		
	TS – Thermal transfer (reel/single sided)		
Printable Width On Marker	025	25mm (1")	
	033	33mm (1.3")	
	038	38mm (1.5")	
	050	50mm (2")	
	070	70mm (2.75")	

Ordering information: Specify product name, marker height, color, scoring option (always 1), format, printable width, and pack size.

Ordering example: HL150YW1NF033B

HT-SCE High temperature, low outgassing heat shrinkable wire identification sleeves

Tyco Electronics's HT-SCE wire markers are designed for use in high temperature applications or where extreme resistance to fuels, lubricants and cleaning solvents is required. They are also ideal for applications in which low-vacuum outgassing is of high importance. The marker sleeves are made of highly flame retarded, heat-shrinkable fluoropolymer tubing.

HT-SCE markers are supplied as a thin, flat "ladder" of sleeves held horizontally between two polyester strips. This configuration feeds directly from the storage box into standard Tyco Electronics recommended printers, with no modifications necessary. A strip of adhesive tape on each side of the sleeves holds them securely in place for printing and kitting, yet the sleeves pull easily from the carrier strips. A standard heat gun with reflector is used to shrink the sleeves onto the wire or cable to achieve a permanent mark.

After shrinking, HT-SCE markers meet the print performance requirements of SAE AS81531 4.6.2 and MIL-STD-202F. HT-SCE markers are supplied in boxes of 1000 sleeves and are available in nine diameter sizes. These cover substrates from 0.8 mm to 34.0 mm. Because of this versatility, customers need not carry a large inventory of markers.

Features and benefits

- Permanent identification sleeves.
- High continuous operating temperature.
- Extreme fluid resistance.
- Low-vacuum outgassing.
- Wide range of sleeve sizes for several wire and bundle diameters.



Temperature rating

Operating temperature range	-55°C to +225°C	-67°F to +437°F
Minimum recovery temperature	+200°C	+392°F
Maximum storage temperature	+40°C	+104°F

Specifications/approvals

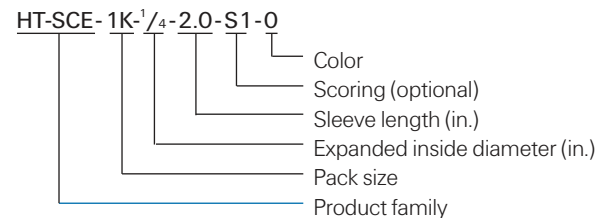
Tyco Electronics	RW2512
Military	SAE AS 81531 4.6.2 MIL-STD-202F Method 215J

Printer information

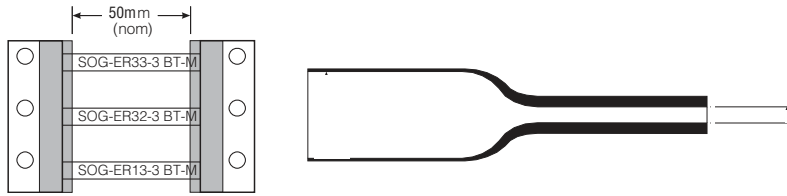
Tyco Electronics printer	T312M (thermal transfer)
Tyco Electronics ribbon	TMS-RJS-RIBBON-4HT (thermal transfer)



Part numbering system



Ordering information



Available sizes and formats

Ordering description	Inside diameter				Recommended use range	
	D (min) As supplied		d (max) After recovery			
	mm	inches	mm	inches	mm	inches
HT-SCE-1K- $\frac{3}{32}$ -2.0- <color>	2.36	0.093	0.79	0.031	0.81 - 1.90	0.032 - 0.075
HT-SCE-1K- $\frac{1}{8}$ -2.0- <color>	3.18	0.125	1.58	0.062	1.75 - 2.66	0.069 - 0.105
HT-SCE-1K- $\frac{1}{16}$ -2.0- <color>	4.75	0.187	2.36	0.093	2.54 - 4.06	0.100 - 0.160
HT-SCE-1K- $\frac{1}{4}$ -2.0- <color>	6.35	0.250	3.18	0.125	3.40 - 6.00	0.134 - 0.236
HT-SCE-1K- $\frac{3}{8}$ -2.0- <color>	9.53	0.375	4.75	0.187	5.30 - 8.10	0.209 - 0.319
HT-SCE-1K- $\frac{1}{2}$ -2.0- <color>	12.70	0.500	6.35	0.250	6.60 - 11.40	0.260 - 0.449
HT-SCE-1K- $\frac{3}{4}$ -2.0- <color>	18.00	0.709	9.00	0.354	9.90 - 15.30	0.390 - 0.602
HT-SCE-1K-1-2.0- <color>	25.40	1.000	12.70	0.500	13.30 - 23.00	0.524 - 0.906
HT-SCE-1K-1 $\frac{1}{2}$ -2.0- <color>	38.10	1.500	19.05	0.750	20.95 - 34.00	0.825 - 1.339

Total width as supplied 90.18 mm (3.550 inches) including tape and carrier width.

Options

Prescoring	Perforated score to produce multiple marker sleeves from each HT-SCE sleeve			
	Number of prescores	1 prescore	2 prescores	3 prescores
	Code	S1	S2	S3
Package size	Standard	1K - 1000 piece packs		
	Nonstandard	Larger pack sizes are available. Please contact Tyco Electronics.		
Colors	Standard	White	Black	
	Code	9	0	
	Nonstandard	Pink	Blue	Yellow
Code	2L	6	4	

Ordering information: Specify product name, pack size, sleeve size, prescore, format and color.

Ordering example: HT-SCE-1K- $\frac{1}{4}$ -2.0-S1-9

HT-SCE High temperature, low outgassing heat shrinkable wire identification sleeves

Tyco Electronics's HT-SCE wire markers are designed for use in high temperature applications or where extreme resistance to fuels, lubricants and cleaning solvents is required. They are also ideal for applications in which low-vacuum outgassing is of high importance. The marker sleeves are made of highly flame retarded, heat-shrinkable fluoropolymer tubing.

HT-SCE markers are supplied as a thin, flat "ladder" of sleeves held horizontally between two polyester strips. This configuration feeds directly from the storage box into standard Tyco Electronics recommended printers, with no modifications necessary. A strip of adhesive tape on each side of the sleeves holds them securely in place for printing and kitting, yet the sleeves pull easily from the carrier strips. A standard heat gun with reflector is used to shrink the sleeves onto the wire or cable to achieve a permanent mark.

After shrinking, HT-SCE markers meet the print performance requirements of SAE AS81531 4.6.2 and MIL-STD-202F. HT-SCE markers are supplied in boxes of 1000 sleeves and are available in nine diameter sizes. These cover substrates from 0.8 mm to 34.0 mm. Because of this versatility, customers need not carry a large inventory of markers.

Features and benefits

- Permanent identification sleeves.
- High continuous operating temperature.
- Extreme fluid resistance.
- Low-vacuum outgassing.
- Wide range of sleeve sizes for several wire and bundle diameters.



Temperature rating

Operating temperature range	-55°C to +225°C	-67°F to +437°F
Minimum recovery temperature	+200°C	+392°F
Maximum storage temperature	+40°C	+104°F

Specifications/approvals

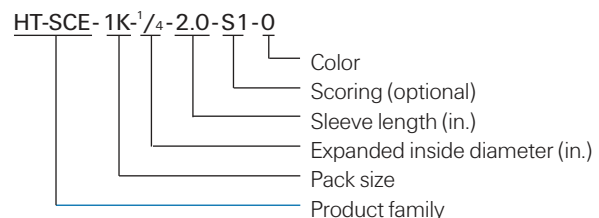
Tyco Electronics	RW2512
Military	SAE AS 81531 4.6.2 MIL-STD-202F Method 215J

Printer information

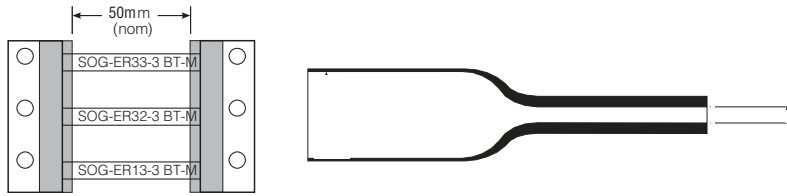
Tyco Electronics printer	T312M (thermal transfer)
Tyco Electronics ribbon	TMS-RJS-RIBBON-4HT (thermal transfer)



Part numbering system



Ordering information



Available sizes and formats

Ordering description	Inside diameter				Recommended use range	
	D (min) As supplied		d (max) After recovery			
	mm	inches	mm	inches	mm	inches
HT-SCE-1K- $\frac{3}{32}$ -2.0- <color>	2.36	0.093	0.79	0.031	0.81 - 1.90	0.032 - 0.075
HT-SCE-1K- $\frac{1}{8}$ -2.0- <color>	3.18	0.125	1.58	0.062	1.75 - 2.66	0.069 - 0.105
HT-SCE-1K- $\frac{1}{16}$ -2.0- <color>	4.75	0.187	2.36	0.093	2.54 - 4.06	0.100 - 0.160
HT-SCE-1K- $\frac{1}{4}$ -2.0- <color>	6.35	0.250	3.18	0.125	3.40 - 6.00	0.134 - 0.236
HT-SCE-1K- $\frac{3}{8}$ -2.0- <color>	9.53	0.375	4.75	0.187	5.30 - 8.10	0.209 - 0.319
HT-SCE-1K- $\frac{1}{2}$ -2.0- <color>	12.70	0.500	6.35	0.250	6.60 - 11.40	0.260 - 0.449
HT-SCE-1K- $\frac{3}{4}$ -2.0- <color>	18.00	0.709	9.00	0.354	9.90 - 15.30	0.390 - 0.602
HT-SCE-1K-1-2.0- <color>	25.40	1.000	12.70	0.500	13.30 - 23.00	0.524 - 0.906
HT-SCE-1K-1 $\frac{1}{2}$ -2.0- <color>	38.10	1.500	19.05	0.750	20.95 - 34.00	0.825 - 1.339

Total width as supplied 90.18 mm (3.550 inches) including tape and carrier width.

Options

Prescoring	Perforated score to produce multiple marker sleeves from each HT-SCE sleeve			
	Number of prescores	1 prescore	2 prescores	3 prescores
	Code	S1	S2	S3
Package size	Standard	1K - 1000 piece packs		
	Nonstandard	Larger pack sizes are available. Please contact Tyco Electronics.		
Colors	Standard	White	Black	
	Code	9	0	
	Nonstandard	Pink	Blue	Yellow
Code	2L	6	4	

Ordering information: Specify product name, pack size, sleeve size, prescore, format and color.

Ordering example: HT-SCE-1K- $\frac{1}{4}$ -2.0-S1-9

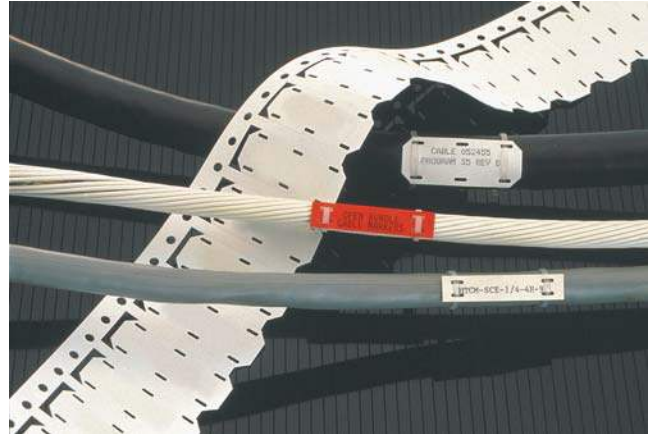
HTCM-SCE High temperature tie-on-cable marker tags

HTCM-SCE markers are flat, rigid, non-adhesive labels that can be used to identify large cables and wire bundles in high temperature environments and outer space applications where low vacuum outgassing is required. Marker tags are applied to cables or wire bundles using cable ties.

Print performance meets or exceeds the requirements of SAE AS81531 4.6.2 and MIL-STD-202F.

Features and benefits

- Side entry provides access to big size cables and wire bundles as well as retrofit and repair capability.
- High temperature use.
- Highly flame-retardant.
- Highly resistant to abrasion, mechanical abuses, fluids, lubricants and solvents.
- Low vacuum outgassing for outer space applications.
- Ease of use: markers can be easily removed from the carrier.
- Easy installation: only standard cable tie-wraps are needed to install markers. No extra steps required.
- Excellent print permanence when printing on the rough side of the marker.



Temperature rating

Operating temperature range -55°C to +225°C -67°F to +437°F

Specifications/approvals

Tyco Electronics	RW25244
Military	Mark permanence: SAE AS81531 4.6.2
	Solvent resistance: MIL-STD-202F
	Method 215J

Printer information

Tyco Electronics printer	T312M (thermal transfer)
Tyco Electronics ribbon	TMS-RJS-RIBBON-4HT (thermal transfer)

Part numbering system

HTM-SCE- 2.5K -¹/₄-4H-9



Ordering information

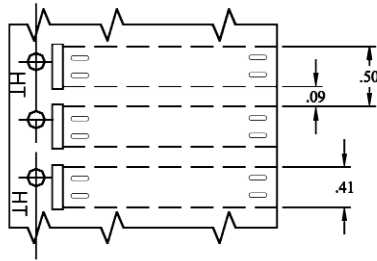


Figure 1
HTCM-SCE-1/4 INCH

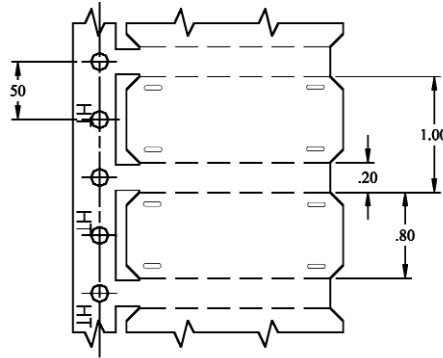


Figure 2

Available sizes and formats

Ordering description	Size	Markable height		Markable length		Recommended use range	
		mm	inches	mm	inches	mm	inches
HTCM-SCE-TP-1/4-4H- <color>	1/4	6.40	0.250	50.80	2.000	5.08 – 12.50	0.200 – 0.492
HTCM-SCE-TP-1/2-4H- <color>	1/2	12.70	0.500	50.80	2.000	12.50 and up	0.492 and up
HTCM-SCE-TP-1/2-6H- <color>	1/2	12.70	0.500	50.80	2.000	12.50 and up	0.492 and up

Options

Tie-wrap holes	1/4-inch tags	Four holes standard	
	1/2-inch tags	Four holes	Six holes
	Code	4H	6H
Fanfold	Code	Fx (substitute package size code for "x")	
Package sizes	Standard	250 pieces	
Colors	Standard	White	
	Code	9	
	Nonstandard	Yellow	
	Code	4	

Ordering information: Specify product name, markable height of marker, pack size, number of tie wraps and color.

Ordering example: HTCM-SCE - 2.5K-1/4-4H-9

HX-SCE High Performance Low Fire Hazard Identification Solution

Thin wall, zero-halogen, low smoke, low toxicity, radiation cross-linked, UV stabilised polyolefin heat-shrinkable tubing, assembled as cut sleeves organized in a ladder format.

Identification of wires and cables by computer-based printing onto sleeves. Ideal for applications where limited fire hazard characteristics are necessary. The zero halogen material coupled with low smoke and low toxic fume emissions make this product is best used in enclosed spaces such as mass transit, marine and industrial installations.

This product is not recommended where strain relief properties are required.

Features and benefits

- Low fire hazard properties, low smoke, low toxicity, low flammability:- meets industry standard BS 6853 (1999) Vehicle Category 1a.
- Superb print quality to give crisp clear identification marker sleeve.
- Excellent print permanence when tested in demanding industry related fluids.
- Choice of printer options.
- Sleeve diameters from 2.4mm to 38.1mm.
- Sleeve length from 12.7mm to 50.8mm.
- Sleeves are printable on both sides for ease of identification or inclusion of additional information to the marker sleeve.
- Shrink ratio of 2:1 - recovers to half of the original diameter.



Temperature rating

Operating temperature range	-30°C to +105°C	-22°F to +221°F
Minimum recovery temperature	+120°C	+248°F
Maximum storage temperature	+40°C	+104°F

Specifications/approvals

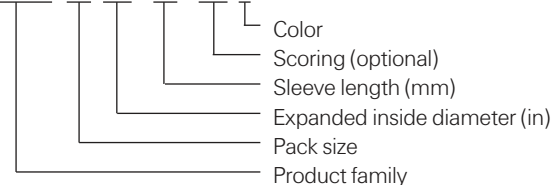
Tyco Electronics	RW 2072
Military	SAE AS81531 4.6.2 MIL-STD-202F Method 215J
Industry	BS 6853 [1999] – Vehicle Category 1a LUL toxic fume (LUL E1042:A6 [2002]) - No halogen, O, N or S sources

Printer information

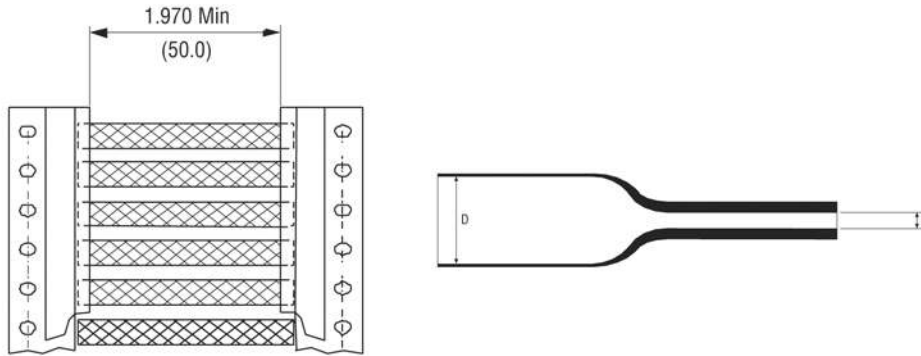
Tyco Electronics printers	T312M & T212M (thermal transfer)
Tyco Electronics ribbons	1966 - Ribbon (T312M) T200 - Ribbon 1966 (T212M)

Part numbering system

HX-SCE-1K-4.8-50-S1-4



Ordering information



Available sizes and formats

Ordering description	Inside diameter				Recommended use range	
	D (min) as supplied		d (max) after recovery		mm	inches
	mm	inches	mm	inches		
HX-SCE-1K-2.4 - 50- <color>	2.40	0.094	1.19	0.047	1.75 - 2.66	0.069 - 0.105
HX-SCE-1K-3.2 - 50- <color>	3.20	0.126	1.58	0.060	2.54 - 4.06	0.100 - 0.160
HX-SCE-1K-4.8 - 50- <color>>	4.80	0.189	2.36	0.090	3.81 - 5.46	0.150 - 0.215
HX-SCE-1K-6.4 - 50- <color>	6.40	0.250	3.18	0.125	5.59 - 8.12	0.220 - 0.320
HX-SCE-1K-9.5 - 50- <color>	9.50	0.375	4.75	0.187	6.99 - 10.79	0.275 - 0.425
HX-SCE-1K-12.7 - 50- <color>	12.70	0.500	6.35	0.250	10.16 - 16.25	0.400 - 0.640
HX-SCE-1K-19.0 - 50- <color>	19.00	0.730	9.53	0.375	14.29 - 21.59	0.563 - 0.850
HX-SCE-1K-25.4 - 50- <color>	25.40	1.000	12.70	0.500	20.95 - 33.02	0.825 - 1.300
HX-SCE-1K-38.1 - 50- <color>	38.10	1.500	19.05	0.750	14.29 - 21.59	0.563 - 0.850

Options

Prescoring	Perforated score to produce multiple marker sleeves from each HX-SCE sleeve.				
	Standard	Side scored			
Number of prescores	1 prescore	2 prescores		3 prescores	
	Code	S1	S2	S3	
Package sizes	Standard	1K - 1000 piece packages available for all HX-SCE sizes up to 25.4			
	Nonstandard	2.5K - 2500 pieces available for 4.8 and 6.4 HX-SCE sizes			
		5K - 5000 pieces available for 2.4 and 3.2 HX-SCE sizes			
Colors	Standard	Yellow	White		
	Code	4	9		
	Nonstandard	Red	Green	Blue	Orange
Code	2	5	6	3	

Ordering information: Specify product name, pack size, sleeve size, prescore, format and color.

Ordering example: HX-SCE-1K-50-S1-4

tyco**Electronics**

Heat Shrink/Cable Markers

HLX Low fire hazard cable marker tags

HLX cable markers are made from zero halogen, low smoke, low toxicity, radiation cross-linked, UV stabilized polyolefin sheet, formed into punched organized cable markers on a paper carrier.

They are used for identification of cables and wire bundles by computer-based printing onto markers. Markers are attached using cable ties. HLX markers are ideal for applications where limited fire hazard characteristics are necessary.

Features and benefits

- Recommended for use where combustion of products may endanger personnel or place delicate electronics at risk.
- Several printable heights and widths available.

**Temperature rating**

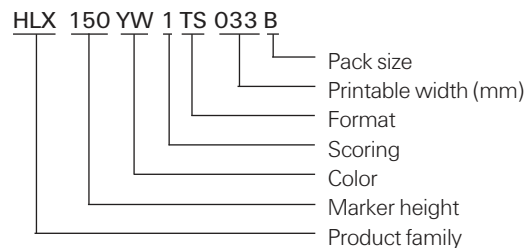
Operating temperature range -30°C to $+105^{\circ}\text{C}$ -22°F to $+221^{\circ}\text{F}$

Specifications/approvals

Tyco Electronics	RW 2523
Military	SAE AS81531 4.6.2 MIL-STD-202F Method 215J
Industry	UL 224 (clause 14) BS 4G 198 Part 3 ASTM D 2671

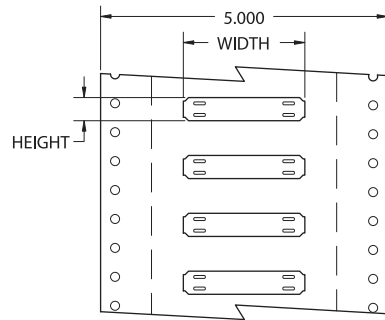
Printer information

Tyco Electronics printer	T312M (thermal transfer)
Tyco Electronics ribbon	1966-RIBBON

Part numbering system

HLX Low fire hazard cable marker tags (Cont'd)

Ordering information



Available sizes and formats

Ordering description	Marker dimensions (W X H)		Printable area (W X H)		Pack size TS
	mm	inches	mm	inches	
HLX104<color>1<format>025B	45.00 x 10.40	1.800 x 0.400	25.00 x 10.40	1.000 x 0.400	1000
HLX104<color>1<format>033B	52.00 x 10.40	2.100 x 0.400	33.00 x 10.40	1.300 x 0.400	1000
HLX104<color>1<format>038B	58.00 x 10.40	2.300 x 0.400	38.00 x 10.40	1.500 x 0.400	1000
HLX104<color>1<format>050B	70.00 x 10.40	2.750 x 0.400	50.00 x 10.40	2.000 x 0.400	1000
HLX104<color>1<format>070B	90.00 x 10.40	3.500 x 0.400	70.00 x 10.40	2.750 x 0.400	1000
HLX150<color>1<format>025B	45.00 x 15.00	1.800 x 0.600	25.00 x 15.00	1.000 x 0.600	500
HLX150<color>1<format>033B	52.00 x 15.00	2.100 x 0.600	33.00 x 15.00	1.300 x 0.600	500
HLX150<color>1<format>038B	58.00 x 15.00	2.300 x 0.600	38.00 x 15.00	1.500 x 0.600	500
HLX150<color>1<format>050B	70.00 x 15.00	2.750 x 0.600	50.00 x 15.00	2.000 x 0.600	500
HLX150<color>1<format>070B	90.00 x 15.00	3.500 x 0.600	70.00 x 15.00	2.750 x 0.600	500
HLX203<color>1<format>025B	45.00 x 20.30	1.800 x 0.800	25.00 x 20.30	1.000 x 0.800	500
HLX203<color>1<format>033B	52.00 x 20.30	2.100 x 0.800	33.00 x 20.30	1.300 x 0.800	500
HLX203<color>1<format>038B	58.00 x 20.30	2.300 x 0.800	38.00 x 20.30	1.500 x 0.800	500
HLX203<color>1<format>050B	70.00 x 20.30	2.750 x 0.800	50.00 x 20.30	2.000 x 0.800	500
HLX203<color>1<format>070B	90.00 x 20.30	3.500 x 0.800	70.00 x 20.30	2.750 x 0.800	500
HLX253<color>1<format>025B	45.00 x 25.30	1.800 x 1.000	25.00 x 25.30	1.000 x 1.000	250
HLX253<color>1<format>033B	52.00 x 25.30	2.100 x 1.000	33.00 x 25.30	1.300 x 1.000	250
HLX253<color>1<format>038B	58.00 x 25.30	2.300 x 1.000	38.00 x 25.30	1.500 x 1.000	250
HLX253<color>1<format>050B	70.00 x 25.30	2.750 x 1.000	50.00 x 25.30	2.000 x 1.000	250
HLX253<color>1<format>070B	90.00 x 25.30	3.500 x 1.000	70.00 x 25.30	2.750 x 1.000	250

Options

Prescoring	Not available on these products – this should always be 1.		
Package sizes	Standard	B	
Colors	Standard	White	Yellow
	Code	WE	YW
	Nonstandard	Red	Blue
	Code	RD	BE
Format	TS – Thermal transfer (reel/single sided)		
Printable width on marker	025	25mm (1")	
	033	33mm (1.3")	
	038	38mm (1.5")	
	050	50mm (2")	
	070	70mm (2.75")	

Ordering information: Specify product name, marker height, color, scoring option (always 1), format, printable width, and pack size.

Ordering example: HLX150YW1TS033B

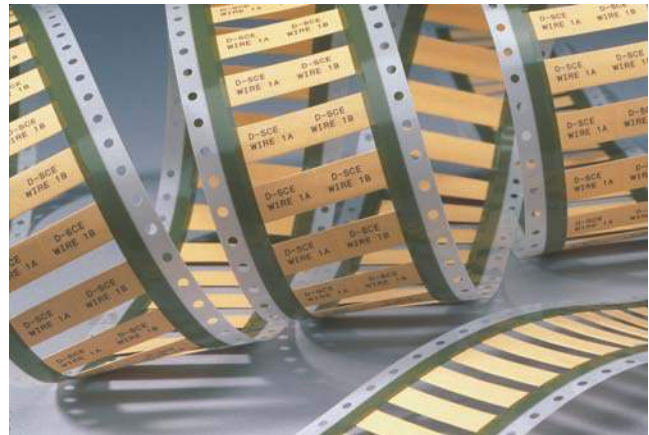
D-SCE Fluid resistant computer-printable permanent wire identification sleeves

D-SCE markers are used to identify wires and cables where exposure to organic fluids, especially oils, is required. D-SCE markers are designed to operate in these conditions at elevated temperatures for extended periods of time, making them ideal in aerospace, rail and construction industries. The D-SCE markers are suitable for use in environments with temperatures of -55°C to $+135^{\circ}\text{C}$ (-67°F to $+275^{\circ}\text{F}$), and will provide strain relief, insulation and protection from mechanical abuse. The 3:1 shrink ratio markers* are assembled in a ladder format enabling sleeves to be printed on both sides for maximum data content and readability.

*See ordering description.

Features and benefits

- Resistance to organic fluids, common fuels, lubricants and solvents.
- 3:1 shrink ratio.
- Wide range of sizes for several wire and bundle diameters.
- Formulated for use in aerospace, rail and construction equipment.
- Dot matrix and thermal transfer printable — both print technologies meet all specifications and approvals listed.



Temperature rating

Operating temperature range	-55°C to $+135^{\circ}\text{C}$	-67°F to $+275^{\circ}\text{F}$
Minimum recovery temperature	$+135^{\circ}\text{C}$	$+275^{\circ}\text{F}$
Maximum storage temperature	$+40^{\circ}\text{C}$	$+104^{\circ}\text{F}$

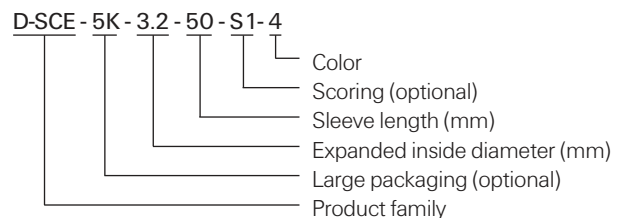
Specifications/approvals

Tyco Electronics	RW 2519
Military	SAE-AMS-DTL-23053/6, Class 1 (material and performance requirements) SAE AS81531 4.6.2 MIL-STD-202F Method 215J
Industry	NF F 00 608 Category A and H

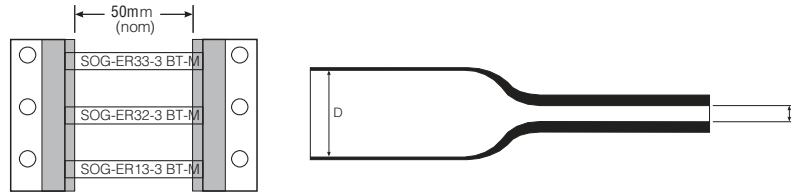
Printer information

Tyco Electronics printer	AM6310 (dot matrix) T312M (thermal transfer)
Tyco Electronics ribbon	1892BK04-RIBBON (dot matrix) 1966-RIBBON

Part numbering system



Ordering information



Available sizes and formats

Ordering description	Inside diameter		Recommended use range			
	As supplied		After recovery			
	mm	inches	mm	inches		
D-SCE-1K-2.4-50-<color>	2.39	0.094	0.79	0.031	0.81 - 1.90	0.032 - 0.075
D-SCE-1K-3.2-50-<color>	3.18	0.125	1.07	0.043	1.11 - 2.66	0.044 - 0.105
D-SCE-1K-4.8-50-<color>	4.75	0.187	1.57	0.063	1.75 - 4.06	0.069 - 0.160
D-SCE-1K-6.4-50-<color>	6.35	0.250	2.11	0.084	2.31 - 5.46	0.091 - 0.215
D-SCE-1K-9.5-50-<color>	9.53	0.375	3.18	0.125	3.47 - 8.12	0.137 - 0.320
D-SCE-1K-12-50-<color>	12.70	0.500	4.22	0.167	4.64 - 10.79	0.183 - 0.425
D-SCE-1K-18-50-<color>	19.05	0.750	6.35	0.250	6.99 - 16.25	0.275 - 0.640
D-SCE-1K-25-50-<color>	25.40	1.000	8.46	0.333	9.29 - 21.59	0.366 - 0.850
D-SCE-1K-38-50-<color>*	38.10	1.500	19.05	0.750	20.95 - 33.02	0.825 - 1.300

* 2:1 shrink ratio

Total width as supplied 90.18 mm (3.550 inches) including tape and carrier width.

Options

Prescoring	Perforated score to produce multiple marker sleeves from each D-SCE sleeve.		
	Standard	Side scored	
	Number of prescores	1 prescore	2 prescores
Code	S1	S2	S3
Package sizes	Standard	1K - 1000 piece packages available for all D-SCE sizes	
	Nonstandard	Larger pack sizes are available. Please contact Tyco Electronics.	
Colors	Standard	White	Yellow
	Code	9	4
	Nonstandard	Pink	Blue
Code	2L	6	

Ordering information: Specify product name, pack size, sleeve size, prescore, format and color.

Ordering example: D-SCE-1K-6.4-50-S2-4

NMX Flame retarded polyaramid cable marker tags

NMX cable marker tags are used for identification of cables and wire bundles by computer-based printing onto markers. The markers are attached using cable ties. They are ideal for aerospace and other cases where resistance to harsh environments and light weight are important.

Features and benefits

- Extremely light weight.
- Ultimate tensile strength and tear resistance.
- Flame retardant.
- Resistant to several avionics fluids, solvents and cleaners.
- Dot matrix printable.
- Available in white and yellow printable areas.



Temperature rating

Operating temperature range -40°C to +135°C -40°F to +275°F

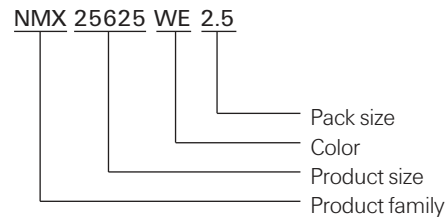
Specifications/approvals

Tyco Electronics	TTDS-030
Military	SAE AS81531 4.6.2, MIL-STD-202F Method 215J
Industry	DMS 2325, DMS 2409

Printer information

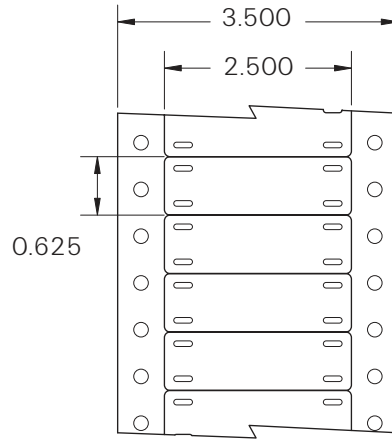
Tyco Electronics printer	AM6310 (dot matrix)
Tyco Electronics ribbon	1892 BK01 (dot matrix)

Part numbering system



NMX Flame retarded polyaramid cable marker tags (Cont'd)

Ordering information



Available sizes and formats

Ordering description	Label width		Label height		Printable width		Weight (g/10 pcs.)
	mm	<i>inches</i>	mm	<i>inches</i>	mm	<i>inches</i>	
NMX25625<color>2.5	63.50	<i>2.500</i>	15.87	<i>0.625</i>	50.80	<i>2.000</i>	2.5

Options

Package sizes	Standard	2500 pieces per pack
	Nonstandard	Larger pack sizes are available. Please contact Tyco Electronics.
Colors	White	Yellow
	WE	YE

Ordering information: Specify product name, product size, color and pack size.

Ordering example: NMX25625WE2.5

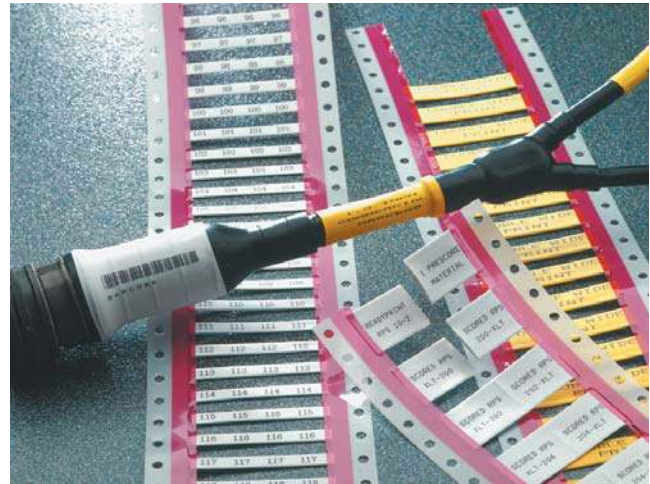
RPS Commercial grade wire identification sleeves

RPS markers are heat shrinkable marking sleeves for wire and cable identification. When RPS is printed with Tyco Electronics recommended printers and ink ribbons, the marks remain legible, without any post printing process, even when exposed to abrasion, aggressive cleaning solvents, and industrial fluids.

RPS markers are designed to meet the wire identification needs of commercial and industrial customers.

Features and benefits

- Permanent identification sleeves.
- Computer printable.
- Excellent print performance.
- Configured for ease of kitting.
- Good chemical and solvent resistance.
- 3:1 shrink ratio.
- CSA Certified, UL Recognized.



Temperature rating

Operating temperature range	-30°C to +105°C	-22°F to +221°F
Minimum recovery temperature	+85°C	+185°F
Maximum storage temperature	+40°C	+104°F

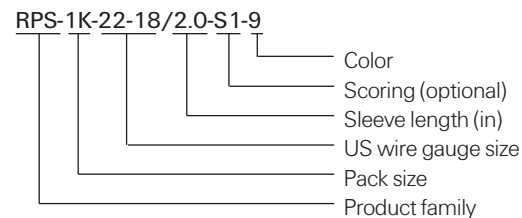
Specifications/approvals

Tyco Electronics	RW 2510
Military	SAE AS81531 4.6.2 MIL-STD-202F Method 215J
Industry	UL Recognized – standard 224, file E35586 CSA Certified – file 31929

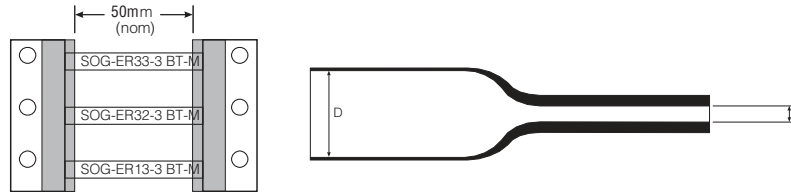
Printer information

Tyco Electronics printer	AM6310 (dot matrix) T208M (thermal transfer – low volume) T312M (thermal transfer)
Tyco Electronics ribbon	1892BK04-RIBBON (dot matrix) TMS-101-RIBBON-4RPSCE (thermal transfer for T208M) TMS-RJS-RIBBON-4RPSCE (thermal transfer for T312M)

Part numbering system



Ordering information



Available sizes and formats

Ordering description	Inside diameter				Recommended use range	
	D (min) as supplied		d (max) after recovery			
	mm	inches	mm	inches	mm	inches
RPS-1K-22-18/2.0- <color>	3.18	0.125	1.07	0.042	1.17 - 2.66	0.046 - 0.105
RPS-1K-18-12/2.0- <color>	4.75	0.187	1.57	0.062	1.75 - 4.06	0.069 - 0.160
RPS-1K-16-10/2.0- <color>	6.35	0.250	2.11	0.083	2.31 - 5.46	0.091 - 0.215
RPS-1K-8-4/2.0- <color>	9.53	0.375	3.18	0.125	3.47 - 8.12	0.137 - 0.320
RPS-1K-10-2/2.0- <color>	12.70	0.500	4.22	0.166	4.64 - 10.79	0.183 - 0.425
RPS-1K-6-250/2.0- <color>	19.05	0.750	6.35	0.250	6.99 - 16.25	0.275 - 0.640
RPS-1K-1-400/2.0- <color>	25.40	1.000	8.46	0.333	9.29 - 21.59	0.366 - 0.850
RPS-1K-400-1000/2.0- <color>	38.10	1.500	19.05	0.750	20.95 - 33.02	0.825 - 1.300

Total width as supplied 90.18 mm (3.550 inches) including tape and carrier width.

Options

Prescoring	Perforated score to produce multiple marker sleeves from each RPS sleeve.		
	Number of prescores	1 prescore	2 prescores
	Code	S1	S2
Package sizes	Standard	1K-1000 piece packs	
	Nonstandard	Smaller and larger pack sizes are available. Please contact Tyco Electronics.	
Colors	Standard	White	Yellow
	Code	9	4

Ordering information: Specify product name, pack size, sleeve size, prescore, format and color.

Ordering example: RPS-1K-22-18/2.0-S2-9

NBC-SCE Nuclear, biological & chemical heat shrinkable wire identification sleeves

Tyco Electronics NBC-SCE is used to identify wire and cables where extreme resistance to cleaning solvents is needed. The markers are suitable for use in wire harness systems requiring high fluid resistance and resistance to the effects of nuclear, biological and chemical agent exposure and decontamination. The markers should be used with an appropriate transparent oversleeve whose ends are sealed with an appropriate epoxy adhesive.

NBC-SCE marker sleeves are suitable for use in environments with temperatures from -55°C to $+225^{\circ}\text{C}$ (-67°F to $+275^{\circ}\text{F}$).

Features and benefits

- Permanent identification sleeves.
- Computer-printable.
- 2:1 shrink ratio.
- NBC application with the appropriate adhesive and oversleeve.



Temperature rating

Operating temperature range	-55°C to $+225^{\circ}\text{C}$	-67°F to $+437^{\circ}\text{F}$
Minimum recovery temperature	$+200^{\circ}\text{C}$	$+392^{\circ}\text{F}$
Maximum storage temperature	$+40^{\circ}\text{C}$	$+104^{\circ}\text{F}$

Specifications/approvals

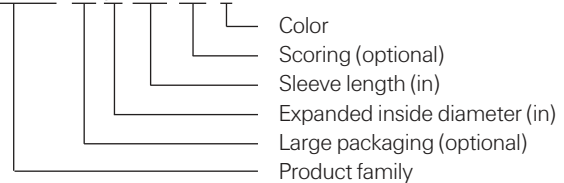
Tyco Electronics	RW2514
Military	SAE AS81531 4.6.2 MIL-STD-202F Method 215J

Printer information

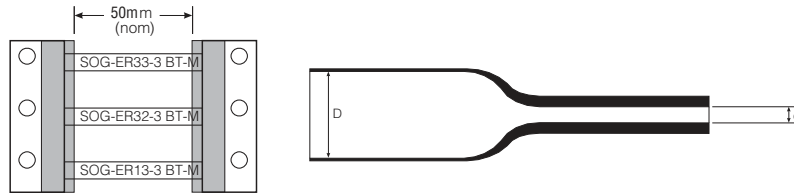
Tyco Electronics printer	T312M (thermal transfer)
Tyco Electronics ribbon	TMS-RJS-RIBBON-4HT (thermal transfer)

Part numbering system

NBC-SCE-1K-1/4-2.0-S1-9



Ordering information



Available sizes and formats

Ordering description	Inside diameter				Recommended use range		Recovered wall thickness	
	Expanded D (minimum)		Recovered d (maximum)		mm	inches	mm	inches
	mm	inches	mm	inches				
NBC-SCE-1K-1/8-2.0<color>	3.43	0.135	1.59	0.062	1.75-2.66	0.069-0.105	0.38 ± 0.08	0.015 ± 0.003
NBC-SCE-1K-1/4-2.0<color>	6.35	0.250	3.18	0.125	3.81-5.46	0.150-0.215	0.38 ± 0.08	0.015 ± 0.003
NBC-SCE-1K-1/2-2.0<color>	12.70	0.500	6.35	0.250	6.99-10.79	0.275-0.425	0.38 ± 0.08	0.015 ± 0.003
NBC-SCE-1K-3/4-2.0<color>	19.05	0.750	9.53	0.375	10.16-16.25	0.400-0.640	0.38 ± 0.08	0.015 ± 0.003
NBC-SCE-1K-1-2.0<color>	25.40	1.000	12.70	0.500	14.70-21.50	0.578-0.846	0.43 ± 0.10	0.017 ± 0.004
NBC-SCE-1K-1-1/2-2.0<color>	38.10	1.500	19.05	0.750	20.95-33.02	0.825-1.300	0.43 ± 0.10	0.017 ± 0.004

Total width as supplied 90.18 mm (3.550 inches) including tape and carrier width.

Options

Prescoring	Perforated score to produce multiple marker sleeves from each NBC-SCE sleeve.		
	Number of prescores	1 prescore	2 prescores
	Code	S1	S2
			3 prescores
			S3
Package sizes	Standard	1000 piece packages available for all NBC-SCE sizes	
Colors	Standard	White	
	Code	9	

Ordering information: Please specify product name, pack size, sleeve size, prescore, format and color.

Ordering example: NBC-SCE-1K-1/8-2.0-9

TMS-CCUV Heat shrinkable UV protection sleeves

TMS-CCUV clear heat shrinkable sleeves are designed for over protection of TMS System Six identification products, to give increased protection for permanent, long-term environmental exposure. The clear CCUV heat-shrinkable sleeves are formulated to combine a long-term barrier to the effects of ultra-violet, with tough resistance to abrasion and industrial fluids. They are available in packs which match the product sizes and pack quantities of TMS System Six heat-shrinkable identification sleeves and cable markers.

The TMS CCUV sleeves are inherently low profile and use the action of heat-shrink to lock in place over the previously installed identification sleeves; except for cable markers which use a slide fitting CCUV sleeve which is held in place by the cable ties.

The action of heat-shrink locking of the CCUV sleeves means there is no reliance on the long term performance of adhesives to hold the outer protection layer in place, and also gives the ability to accommodate cables and wire bundles which may be bent or flexed during use.

Features and benefits

- Exceptional clarity and stability.
- Added UV-resistant sleeves.
- Not printable.
- Tough resistance to abrasion and industrial fluids.
- Heat-shrink locking in place (no reliance on adhesives).
- Low profile.
- Accommodates bent or flexing cable/wire bundles.
- Can work as an NBC (nuclear, biological, chemical) System with NBC-SCE sleeves and appropriate adhesive.



Temperature rating

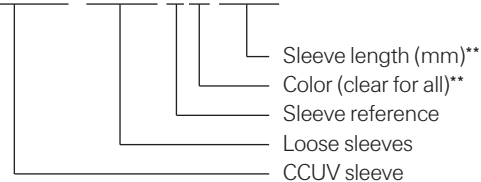
Operating temperature range	-55°C to +150°C	-67°F to 302°F
Minimum recovery temperature	+150°C	+302°F
Maximum storage temperature	+40°C	+104°F

Specifications/approvals

Tyco Electronics	RW 2525
Military	UL VW-1 rated SAE-AMS-DTL-23053/18, Class 2

Part numbering system

TMS-CCUV-SLEEVE-1-X-65mm

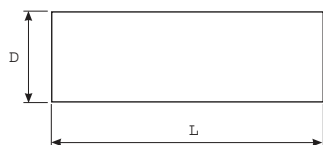


** not used in NBC-SCE 76mm (3") length sleeve options

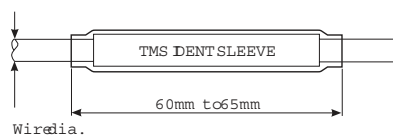


Ordering information

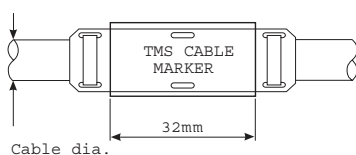
Before shrinking



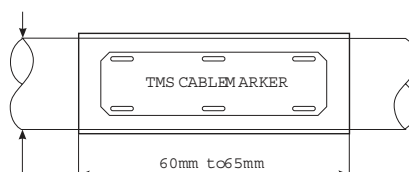
After shrinking over TMS cable sleeve



After sliding over TMS cable marker



After shrinking over TMS cable marker



TMS-CCUV Heat shrinkable UV protection sleeves (Cont'd)

Available sizes and formats

(For use with heat shrink sleeves)

Ordering description	Sleeve length		Inside diameter minimum		Recovered diameter maximum		Wire size diameter		Sleeve size expanded diameter	
	mm	inches	mm	inches	mm	inches	mm	inches	TMS-SCE	RPS
TMS-CCUV-SLEEVE-1-X-65mm	65	3.20	0.125	1.60	0.063	1.80-2.80	0.071-0.110	2.40	0.094	N/A
TMS-CCUV-SLEEVE-1-X-65mm	65	3.20	0.125	1.60	0.063	1.80-2.80	0.071-0.110	3.20	0.125	22-18
TMS-CCUV-SLEEVE-2-X-65mm	65	4.80	0.187	2.40	0.094	2.60-3.70	0.102-0.146	4.80	0.188	18-12
TMS-CCUV-SLEEVE-2-X-65mm	65	4.80	0.187	2.40	0.094	2.60-3.70	0.102-0.146	6.40	0.250	16-10
TMS-CCUV-SLEEVE-3-X-65mm	65	6.40	0.250	3.20	0.126	3.50-5.10	0.138-0.201	9.50	0.375	8-4
TMS-CCUV-SLEEVE-4-X-65mm	65	9.50	0.375	4.80	0.189	5.00-7.00	0.197-0.275	12.70	0.500	10-2
TMS-CCUV-SLEEVE-5-X-65mm	65	12.70	0.500	6.40	0.252	6.90-10.60	0.272-0.417	19.00	0.750	6-250
TMS-CCUV-SLEEVE-6-X-65mm	65	19.00	0.750	9.50	0.374	10.00-14.00	0.394-0.551	25.40	1.000	1-400
TMS-CCUV-SLEEVE-7-X-65mm	65	25.40	1.000	12.70	0.500	13.30-21.00	0.524-0.827	25.40	1.000	1-400
TMS-CCUV-SLEEVE-8-X-65mm	65	38.10	1.500	19.00	0.748	21.00-33.80	0.827-1.331	38.10	1.500	400-1000

Some TMS-SCE and RPS sleeve sizes may need to be recovered partially before CCUV sleeve is applied to protect them.

(For use with cable markers to secure / protect without cable ties)

Ordering description	Sleeve length	Inside diameter minimum		Recovered diameter maximum		Wire size diameter		Marker height	
		mm	inches	mm	inches	mm	inches	mm	inches
TMS-CCUV-SLEEVE-4-X-65mm	65	9.50	0.375	4.80	0.189	5.00-8.00	0.197-0.315	6.40	0.250
TMS-CCUV-SLEEVE-5-X-65mm	65	12.70	0.500	6.40	0.252	7.00-11.00	0.275-0.433	6.40	0.250
TMS-CCUV-SLEEVE-6-X-65mm	65	19.00	0.750	9.50	0.374	12.00-17.00	0.472-0.669	12.70	0.500
TMS-CCUV-SLEEVE-7-X-65mm	65	25.40	1.000	12.70	0.500	15.00-23.00	0.590-0.905	12.70	0.500

(For use with cable markers to protect with cable ties)

Ordering description	Sleeve length	Inside diameter minimum		Recovered diameter maximum		Wire size diameter		Marker height	
		mm	inches	mm	inches	mm	inches	mm	inches
TMS-CCUV-SLEEVE-9-X-32mm	32	6.40	0.250	3.20	0.126	N/A		6.40	0.250
TMS-CCUV-SLEEVE-10-X-32mm	32	12.70	0.500	6.40	0.252	N/A		12.70	0.500

(For use with NBC-SCE sleeves and adhesives sealing)*

Ordering description	Sleeve length	Inside diameter minimum		Recovered diameter maximum		Wire size diameter NBC-SCE		Sleeve size expanded diameter NBC-SCE	
		mm	inches	mm	inches	mm	inches	mm	inches
TMS-CCUV-SLEEVE-15	76	3.20	0.125	1.60	0.063	1.80-2.80	0.071-0.110	3.20	0.125
TMS-CCUV-SLEEVE-16	76	4.80	0.187	2.40	0.094	2.60-3.70	0.102-0.146	4.80	0.188
TMS-CCUV-SLEEVE-17	76	6.40	0.250	3.20	0.126	3.50-5.10	0.138-0.201	6.40	0.250
TMS-CCUV-SLEEVE-18	76	9.50	0.375	4.80	0.189	5.00-7.00	0.197-0.275	9.50	0.375
TMS-CCUV-SLEEVE-19	76	12.70	0.500	6.40	0.252	6.90-10.60	0.272-0.417	12.70	0.500
TMS-CCUV-SLEEVE-20	76	19.00	0.750	9.50	0.374	10.00-14.00	0.394-0.551	19.00	0.750
TMS-CCUV-SLEEVE-21	76	25.40	1.000	12.70	0.500	13.30-21.00	0.524-0.827	25.40	1.000
TMS-CCUV-SLEEVE-22	76	38.10	1.500	19.00	0.748	21.00-33.80	0.827-1.331	38.10	1.500

**For use with adhesives such as S-1255-04 and S-1264 please refer to RT1012 and RT1014 for specifications and adhesive details.*

Options

Prescoring	Not available – supplied as cut pieces.	
Package Sizes	Standard	250 piece bags only
Colors	Standard	Clear only
Ordering information:	Specify product name, loose sleeve, sleeve reference, color and sleeve length.	
Ordering example:	For all Heat Shrink sleeves except NBC-SCE TMS-CCUV-SLEEVE-1-X- 65mm	
	For NBC-SCE TMS-CCUV-SLEEVE-22	

MultiMark Strip & Carriers insert marker for post termination identification

MultiMark is comprised of a polyolefin printed strip, which is inserted into a protective PVC carrier. The carrier can be applied to wires or cables pre-termination to allow post termination printed strip insertion or the strips can be replaced post termination when re-labeling is required.

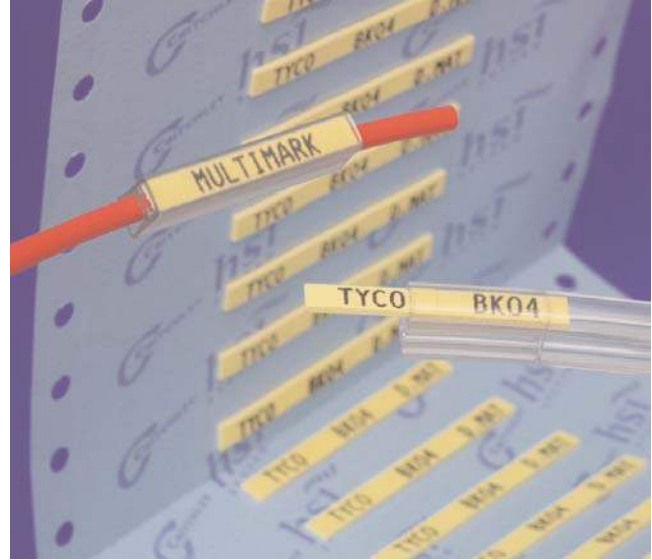
The PVC carrier protects the markers from dust and grime. These carriers are available in a number of sizes to cover a wide range of cable diameters.

The printable strips are presented as organized markers assembled onto fanfolded paper carrier for ease of selection and kitting. The strips are available in a variety of lengths.

Available for printing by dot matrix only.

Features and benefits

- Suitable for post termination labeling and re-labeling
- Marker lengths 10mm to 30mm
- Clear carriers to fit cable diameters 1.8mm to 8.0mm



Temperature rating

Operating temperature range -45°C to +70°C -49°F to 158°F

Specifications/approvals

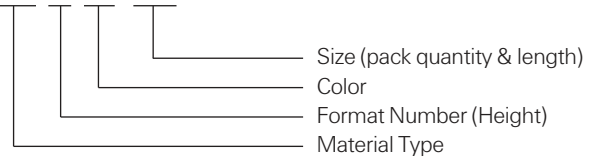
Military MIL-STD 202F method 215J
SAE-AS81531 4.6.2

Printer information

Tyco Electronics Printer AM6310 (dot matrix)
Tyco Electronics Ribbon 1892BK04 (dot matrix)

Part numbering system

082 - 5 - 99 - 19A



MultiMark Strip & Carriers insert marker for post termination identification (Cont'd)
Ordering Information

Type	Format Number	Color	Size	Pack Qty	Marker length
082 = Polyolefin Label	5 = Height 4mm	99 = White	01A	880 pcs.	15.0mm
MultiMark		94 = Yellow	03A	880 pcs.	30.0mm
			05A	792 pcs.	10.0mm
			02A	1760 pcs.	15.0mm
			04A	1760 pcs.	30.0mm
			06A	1848 pcs.	10.0mm
			17A	1320 pcs.	20.0mm
			18A	2640 pcs.	20.0mm
			19A	3520 pcs.	15.0mm

Legends

Order Code	Marker mm	Length <i>inches</i>	Marker mm	Height <i>inches</i>	Pack	Quantity	Color
08259905A	10.2	<i>0.4</i>	4	<i>0.16</i>		792	White
08259906A	10.2	<i>0.4</i>	4	<i>0.16</i>		1848	White
08259901A	15.2	<i>0.6</i>	4	<i>0.16</i>		880	White
08259902A	15.2	<i>0.6</i>	4	<i>0.16</i>		1760	White
08259919A	15.2	<i>0.6</i>	4	<i>0.16</i>		3520	White
08259917A	20.2	<i>0.8</i>	4	<i>0.16</i>		1320	White
08259918A	20.2	<i>0.8</i>	4	<i>0.16</i>		2640	White
08259903A	30.2	<i>1.2</i>	4	<i>0.16</i>		880	White
08259904A	30.2	<i>1.2</i>	4	<i>0.16</i>		1760	White
08259405A	10.2	<i>0.4</i>	4	<i>0.16</i>		792	Yellow
08259406A	10.2	<i>0.4</i>	4	<i>0.16</i>		1848	Yellow
08259401A	15.2	<i>0.6</i>	4	<i>0.16</i>		880	Yellow
08259402A	15.2	<i>0.6</i>	4	<i>0.16</i>		1760	Yellow
08259419A	15.2	<i>0.6</i>	4	<i>0.16</i>		3520	Yellow
08259417A	20.2	<i>0.8</i>	4	<i>0.16</i>		1320	Yellow
08259418A	20.2	<i>0.8</i>	4	<i>0.16</i>		2640	Yellow
08259403A	30.2	<i>1.2</i>	4	<i>0.16</i>		880	Yellow
08259404A	30.2	<i>1.2</i>	4	<i>0.16</i>		1760	Yellow

Carriers

Order Code	For Cable Diameter (mm)	For Cable Size (mm ²)	Carrier Size	Carrier Length	Pack Quantity
0825001	1.8 - 4.0	0.5 - 1.5	0	—	50m coil
0825016	1.8 - 4.0	0.5 - 1.5	0	16	1200 pcs
0825032	1.8 - 4.0	0.5 - 1.5	0	32	600 pcs
0825201	2.6 - 6.0	1.5 - 6.0	2	—	30m coil
0825216	2.6 - 6.0	1.5 - 6.0	2	16	800 pcs
0825232	2.6 - 6.0	1.5 - 6.0	2	32	400 pcs
0825416	5.2 - 8.0	4.0 - 16.0	4	16	400 pcs
0825432	5.2 - 8.0	4.0 - 16.0	4	32	200 pcs

tyco**Electronics**

Heat Shrink/Cable Markers

iMC Laser or hand writable marking clip

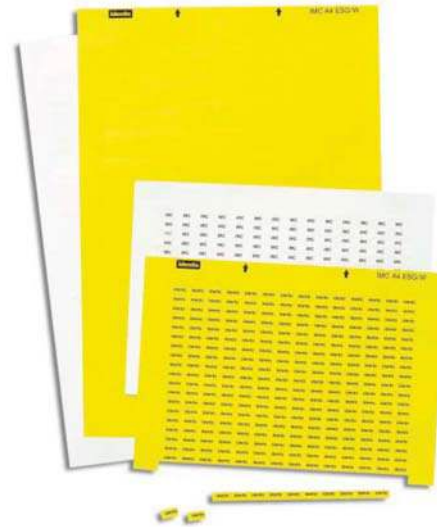
Tyco iMC are marking clips designed for the identification of wires and can be permanently attached to wires, post termination.

They can be quickly and simply clipped on the wire or cable. The polyester insert strip which can be printed using a laser printer or written by hand is then inserted in the clip.

The marking clips are fastened without the need of cable ties.

Features and benefits

- Protects against damp, dust and dirt
- iMC polyester strip can be marked with a laser printer or by hand
- Quick and flexible
- iMC strip is a dual color label with white on one side and yellow on the other

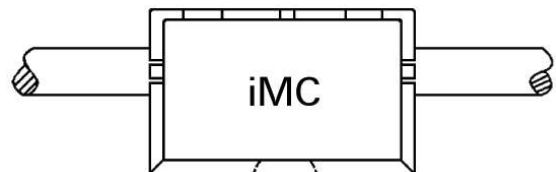
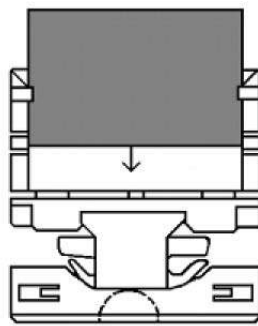
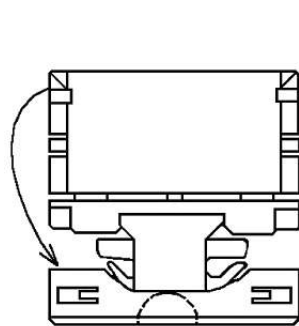
**Temperature rating**

Operating temperature +80°C (+176°F)

Printer Information

Standard laser printer with auto/manual sheet feed

Contact Tyco Electronics Electronics Identification for more information.



iMC Laser or hand writable marking clip (Cont'd)

Ordering Information

Marker Clips

Ordering Description	Clips per pack	Recommended Use Range mm (<i>in</i>)	Typical Cross Section mm ²	Dimensions Length x Width mm (<i>in</i>)
iMC02	500	0.75 - 2.00 <i>(0.03 - 0.08)</i>	0.20 - 0.75	15 x 7.8 <i>(0.59 - 0.31)</i>
iMC04	500	1.75 - 3.25 <i>(0.07 - 0.13)</i>	0.50 - 1.50	15 x 7.8 <i>(0.59 - 0.31)</i>
iMC06	500	3.00 - 4.50 <i>(0.12 - 0.18)</i>	1.50 - 6.00	15 x 9.5 <i>(0.59 - 0.37)</i>
iMC08	500	4.25 - 6.00 <i>(0.17 - 0.24)</i>	6.00 - 10.00	15 x 9.5 <i>(0.59 - 0.37)</i>

Legend Strips (A4 Sheets)

Ordering Description	Labels per sheet	Color	Label Size Height x Width mm (<i>in</i>)
iMCA4ES-4/9	560	1 side White 1 side Yellow	6.4 x 12.2 <i>(0.25 x 0.48)</i>

Tyco iKC/iKB are cable clips designed for the identification of wires and cables in rough, damp and dusty environments.

The legend strip (iKB) with the printable information is embedded in the cable clip (iKC) and therefore has all-round protection.

The cable clips are fastened on using cable ties.

Features and benefits

- Protects against damp, dust and dirt
- iKB legend strip marked with a laser printer or by hand
- Universal application on various cable diameters
- iKB legend strip is a dual color label with white on one side and yellow on the other



Temperature rating

Operating temperature -26°C to +130°C (-15°F to +266°F)

Printer Information

Standard laser printer with auto/manual sheet feed

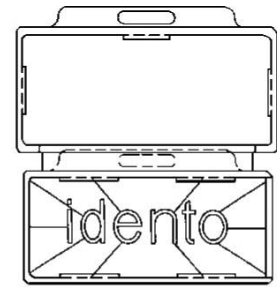
Contact Tyco Electronics Electronics Identification for more information.

iKC/iKB Laser or hand writable cable clip (Cont'd)

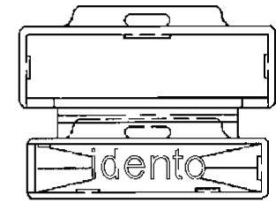
Ordering Information

Cable Clips iKC

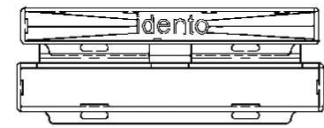
Ordering Description	Clips per pack	Dimensions Length x Width mm (<i>in</i>)
iKC01	25	44 x 21 <i>(1.73 - 0.83)</i>
iKC02	25	34 x 10.5 <i>(1.34 - 0.41)</i>
iKC03	25	68 x 10.5 <i>(2.68 x - 0.41)</i>



iKC 01



iKC 02



iKC 03

Ordering Information

Legend Strips iKB (A4 Sheets)

Ordering Description	Labels per sheet	Color	Label Size Height x Width mm (<i>in</i>)
iKB01P-9/4	60	1 side White	16 x 40
		1 side Yellow	<i>(0.63 x 1.57)</i>
iKB02P-9/4	240	1 side White	6.2 x 30
		1 side Yellow	<i>(0.24 x 0.41)</i>
iKB03P-9/4	120	1 side White	6.2 x 64
		1 side Yellow	<i>(0.24 x 0.41)</i>

