

Thomas-Vision

머신비전

머신비전 산업 및 주변환경의 적용 케이블

 (주)토마스케이블

GSA AWM I/II AB 80°C 300V FT2 CE

BRÖCKSKES · D-VIERSEN · S PB 634 2x0,34mm² CE

AWM Style 20233 80°C 300 V CE

토마스케이블

(주)토마스케이블은 30년간의 케이블 전문 연구개발 활동과 다양한 현장경험을 바탕으로 자체 케이블 제조 및 하네스 전문 회사로 다양한 산업군 고객에게 맞춤형 One-stop 솔루션을 제공합니다. 또한 다양한 해외 네트워크를 통한 세계적인 기술력으로 지속 성장을 실현하고 있습니다.



HISTORY



2005
토마스케이블 설립

2009
ISO9001인증 획득

2011
VDE/CE 인증취득

2016
UL인증취득
(AWM, MTW, TC외)

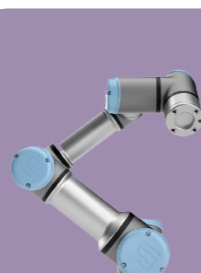
2019
IPA 인증취득

그룹사



Thomas (주)토마스

- 사업분야
- 산업용 네트워크스위치
- 무선장비 및 보안솔루션
- 센서 및 커넥터 솔루션
- 슬리핑 솔루션
- 기타 FA제품 솔루션



Thomas (주)토마스 오토메이션

- 사업분야
- 협동로봇
- ThomS-RING
- ThomS-Witch
- 바이브레이터

Thomas-Vision

머신 비전 시스템은 제조 공정의 자동화와 품질 검사를 담당하는 핵심 기술로, 정확한 영상 분석과 빠른 데이터 처리를 위해 고성능의 하드웨어와 소프트웨어가 필요합니다.

특히, 머신 비전 시스템에 적용되는 케이블은 고속 데이터 전송과 신호 간섭 방지 기능을 갖춰야 하며, 지속적인 사용에도 안정적인 연결을 유지해야 합니다.

또한, 정밀한 검사와 이미지 처리를 수행하기 위해 고해상도 카메라 및 센서와 완벽하게 호환되어야 하며,극한의 산업 환경에서도 신뢰할 수 있는 내구성을 제공해야 합니다.

고품질 머신 비전 케이블은 시스템의 정확도를 유지하고, 불량률 감소와 생산성 향상에 중요한 역할을 합니다.

토마스케이블의 독보적인 성능

토마스케이블의 머신 비전 전용 케이블은 초고속 데이터 전송을 지원하며, 신호 손실을 최소화하여 정밀한 영상 데이터를 안정적으로 제공할 수 있도록 설계되었습니다. 특수 차폐 구조를 적용해 외부 전자기 간섭(EMI)을 효과적으로 차단하며, 산업 환경에서도 최상의 성능을 유지할 수 있도록 내구성과 유연성을 극대화했습니다.

머신비전 산업분야



자율주행



드론



생명과학



반도체



가전



유통



농업

Contents

- USB : SAB USB 2.0, 3.0 S,
USB 3.0 RT
- GigE : CATLine CAT 6A S
CATLine CAT 7A S



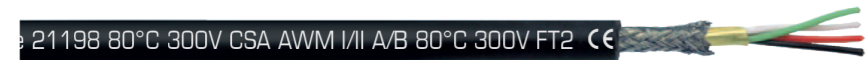
- 기타 통신 : S CB 628
S PB 634
CATLine SPE C-Track

- CoaXpress : Harnessed COAX cable
- I/O 케이블 : SD 200 C TP



SAB USB 2.0 S

USB 2.0 cable, continuously flexible, suitable for cable tracks



Marking for USB 2.0 S UL/CSA 06011122:

SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung · (2x0,22mm²)ST+2x0,5mm² 0601-1122 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE

Construction (구조)

- 도체 : bare copper strands (0,50 mm²)
silver-plated strands (0,22 mm²)
- 절연체 : SABIX®
- 선심식별 : black, red (0,50 mm²), white, green (0,22 mm²)
- 연합 : 2 x 0,22 mm² wrapped with alu foil, together with 0,5mm²
- 테이핑 : non-woven tape
- 차폐 : tinned copper braiding
- 테이핑 : non-woven tape
- 시스 소재 : PUR
- 시스 색상 : black (RAL 9005)

Characteristics (특징)

- 트랙에 적합한(suitable for cable tracks)
- 할로겐 프리(halogen-free)
- 매우 좋은 내유성 (very good oil resistance)
- 전송 길이 최대 10m (transmission length up to 10m)
- 우수한 전송 특성 (excellent transmission characteristics)

Technical data (기술 데이터)

Peak operating voltage :	max. 350V
Testing voltage :	core/core 600V core/screen 600V
Min. bending radius	
fixed laying :	5 x d
flexible application :	6 x d
continuously flexible :	7,5 x d
Temperature range	
fixed laying :	-50/+90 °C
flexible application :	-40/+90 °C
Halogen-free :	acc. to IEC 60754-1 + VDE 0482-754-1 0482-754-1
Oil resistance :	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Absence of harmful substances :	acc. to RoHS directive of the European Union

Other dimensions and colours are possible on request.

item no.	type	Dimension	outer-ø approx. (mm)	Copper figure (kg/km)	Cable weight (≈kg/km)
06011022	USB 2.0 S	(2 x 0,22 mm ²)ST + 2 x 0,50 mm ²	7	34,1	59
06011122	USB 2.0 S UL/CSA	(2 x 0,22 mm ²)ST + 2 x 0,50 mm ²	7,2	34,1	66

SAB USB 3.0 S

USB 3.0 cable with UL recognition, flexible



Marking for USB 3.0 S 06042098:

SAB BRÖCKSKES · D-VIERSEN · USB 3.0 S 3x(2x28AWG)ST+2x26AWG 0604-2098 AWM Style 20549 80° 300V CE

Construction (구조)

- 도체 : silver-plated strands and tinned copper strands
절연체 : special polymer
- 선심식별 : yellow, blue + orange, violet (USB 3.0), green, white (USB 2.0), red, black (power supply)
- 연합 : twisted pairs and datapairs screened, all elements together
- 테이핑 : non-woven tape
- 차폐 : tinned copper braiding
- 테이핑 : non-woven tape
- 시스 소재 : PUR
- 시스 색상 : black (similar RAL 9005)

Characteristics (특징)

- UL 인증 (UL recognition)
- 케이블 트랙에 적합한 (suitable for cable tracks)
- 난연성 및 자기 소화성(flame retardant and self-extinguishing)
- 매우 우수한 내유성 (very good oil resistance)
- 전송 길이 최대 3m (transmission length up to 3 m)
- 우수한 전송 특성 (excellent transmission characteristics)

Technical data (기술 데이터)

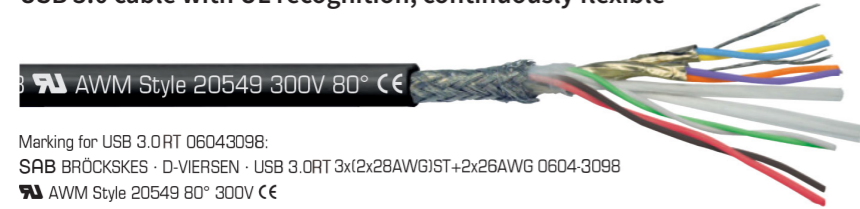
Peak operating voltage :	max. 350 V
Voltage UL :	300V
Testing voltage :	Ader/Ader 2000 V Ader/Schirm 2000 V
Min. bending radius	
fixed laying :	5 x d
flexible application :	10 x d
continuously flexible :	12 x d
Temperature range	UL: up to + 80°C
fixed laying :	-50/+90 °C
flexible application :	-40/+90 °C
Fire performance :	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance :	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
UL Style :	20549
Absence of harmful substances :	acc. to RoHS directive of the European Union

Other dimensions and colours are possible on request.

item no.	Dimension	outer-ø approx. (mm)	Copper figure (kg/km)	Cable weight (≈kg/km)	ohmic resistance at 20°C max.Ω/km	28 AWG	26 AWG
06042098	3 x (2 x 28 AWG)ST + 2 x 26 AWG	6,1	34,1	59	223		140

SAB USB 3.0 RT

USB 3.0 cable with UL recognition, continuously flexible



Marking for USB 3.0 RT 06043098:
SAB BRÖCKSKES · D-VIERSEN · USB 3.0 RT 3x(2x28AWG)ST+2x26AWG 0604-3098
AWM Style 20549 80° 300V CE

Construction (구조)

- 도체 : silver-plated strands and tinned copper strands
절연체 : special polymer
- 선심식별 : yellow, blue + orange, violet (USB 3.0), green, white (USB 2.0), red, black (power supply)
- 연합 : twisted pairs and datapairs screened, all elements together
- 테이핑 : netting tape + non-woven tape
- 차폐 : tinned copper braiding
- 테이핑 : non-woven tape
- 시스 소재 : PUR
- 시스 색상 : black (RAL 9005)

Characteristics (특징)

- UL 인증 (UL recognition)
- 로봇에 적합한 (suitable for robots)
- 난연성 및 자기 소화성 (flame retardant and self-extinguishing)
- 매우 우수한 내유성 (very good oil resistance)
- 전송 길이 최대 3m (transmission length up to 3 m)
- 우수한 전송 특성 (excellent transmission characteristics)

Technical data (기술 데이터)

Peak operating voltage :	max. 350V
Voltage UL :	300 V
Testing voltage :	core/core 2,000V core/screen 600V
Min. bending radius	
fixed laying :	5 x d
flexible application :	10 x d
continuously flexible :	15 x d
Torsion angle :	up to ± 360°/m
Temperature range	UL: up to + 80°C
fixed laying :	-50/+90 °C
flexible application :	-40/+90 °C
Fire performance :	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance :	very good - TMPU acc. to EN 50363-10-2
UL Style :	20549
Absence of harmful substances :	acc. to RoHS directive of the European Union

item no.	Dimension	outer-ø approx. (mm)	Copper figure (kg/km)	Cable weight (≈ kg/km)	ohmic resistance at 20°C max.Ω/km		
					28 AWG	26 AWG	24 AWG
06042098	3 x (2 x 28 AWG)ST + 2 x 26 AWG	6,4	28,1	50	223	140	-
06043096	3 x (2 x 26 AWG)ST + 2 x 24 AWG	8,0	38,9	73	-	130	83,3

Other dimensions and colours are possible on request.

CATLine CAT 6A S

기가바이트 이더넷 케이블



Marking for CATLine CAT 6A S 16774630:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.6 S 4x2x26AWG 1677-4630 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE

Construction (구조)

- 도체 : silver-plated strands and tinned copper strands
절연체 : special polymer
- 선심식별 : yellow, blue + orange, violet (USB 3.0), green, white (USB 2.0), red, black (power supply)
- 연합 : twisted pairs and datapairs screened, all elements together
- 테이핑 : non-woven tape
- 차폐 : tinned copper braiding
- 테이핑 : non-woven tape
- 시스 소재 : PUR
- 시스 색상 : black (similar RAL 9005)

Characteristics (특징)

- UL 인증 (UL recognition)
- 케이블 트랙에 적합한 (suitable for cable tracks)
- 난연성 및 자기 소화성 (flame retardant and self-extinguishing)
- 매우 우수한 내유성 (very good oil resistance)
- 전송 길이 최대 3m (transmission length up to 3 m)
- 우수한 전송 특성 (excellent transmission characteristics)

Technical data (기술 데이터)

Peak operating voltage :	max. 350 V
Voltage UL :	300V
Testing voltage :	Ader/Ader 2000 V Ader/Schirm 2000 V
Min. bending radius	
fixed laying :	5 x d
flexible application :	10 x d
continuously flexible :	12 x d
Temperature range	UL: up to + 80°C
fixed laying :	-50/+90 °C
flexible application :	-40/+90 °C
Fire performance :	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance :	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
UL Style :	20549
Absence of harmful substances :	acc. to RoHS directive of the European Union

item no.	Dimension	outer-ø approx. (mm)	Copper figure (kg/km)	Cable weight (≈ kg/km)	ohmic resistance at 20°C max.Ω/km	
					28 AWG	26 AWG
06042098	3 x (2 x 28 AWG)ST + 2 x 26 AWG	6,1	34,1	59	223	140

Other dimensions and colours are possible on request.

CATLine CAT 7A S

기가바이트 이더넷 케이블



Marking for CATLine CAT 7A S 17774631:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat. 7A S 4x2x26AWG 1777-4631 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE

Construction (구조)

- 도체 : bare copper strands, fine wires
- 절연체 : special polymer
- 선심식별 : white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
- 연합 : cores twisted to pairs, pairs together
- 차폐 : alu foil and tinned copper braiding
- 테이핑 : non-woven tape
- 시스 소재 : PUR
- 시스 색상 : green (similar RAL 6018)

Characteristics (특징)

- UL 인증, CSA 승인(UL recognized, CSA approved)
- 케이블 트랙에 적합한 (suitable for cable tracks)
- 할로겐 프리 (halogen-free)
- 난연성 및 자기 소화성 (flame retardant and self-extinguishing)
- 매우 우수한 내유성 (very good oil resistance)
- 공격적인 화학 물질에 대해 좋은 (good against aggressive chemicals)

Technical data (기술 데이터)

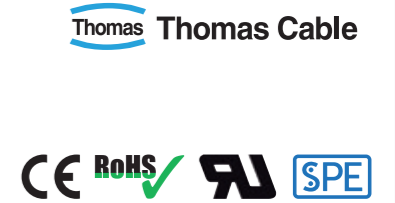
Peak operating voltage:	max. 90 V
Voltage UL/CSA :	300 V
Testing voltage :	core/core 2,000V core/core 2,000V
Min. bending radius	
fixed laying :	5 x d
flexible application :	10 x d
continuously flexible :	15 x d
Temperature range	UL: up to + 80°C
VDE fixed laying :	-40/+70 °C
VDE flexible application :	-40/+70 °C
Halogen-free :	acc. to IEC 60754-1 + VDE 0482-754-1
Flame test :	UL Horizontal Flame Test FT2
Oil resistance :	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance (100 MHz) :	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 + VDE 0819-9-2 / CAT 7A
Flexibility :	very good
UL Style :	20549
Application :	suitable for EtherCAT and EtherNET/IP applications
Absence of harmful substances :	acc. to RoHS directive of the European Union

item no.	Dimension	outer-ø approx. (mm)	outer-ø ± 5% (mm)	Copper figure (kg/km)	Cable weight (≈kg/km)
17774631	4 x 2 x 26 AWG	1,5	8,5	38,5	81
17774431	4 x 2 x 24 AWG	1,6	10,4	46,6	101

Other dimensions and colours are possible on request.

CATLine SPE C-Track

기가바이트 이더넷 케이블



Marking for CATLine SPE C-Track 17771630:
SAB BRÖCKSKES · D-VIERSEN · CATLine SPE C-Track 2xAWG26/7 1777-1630 AWM Style 20549 80°C 300V CE

Construction (구조)

- 도체 : bare copper strands
- 절연체 : special polymer
- 선심식별 : white, blue
- 연합 : twisted to pairs
- 내부 시스 : SABIX®
- 차폐 : alu foil and tinned copper braiding
- 테이핑 : non-woven tape
- 시스 소재 : PUR
- 시스 색상 : green (similar RAL 6018)

Characteristics (특징)

- UL 인증, CSA 승인(UL recognized, CSA approved)
- 케이블 트랙에 적합한 (suitable for cable tracks)
- 할로겐 프리 (halogen-free)
- 난연성 및 자기 소화성 (flame retardant and self-extinguishing)
- 매우 우수한 내유성 (very good oil resistance)
- 공격적인 화학 물질에 대해 좋은 (good against aggressive chemicals)

Technical data (기술 데이터)

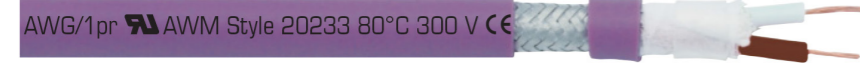
Peak operating voltage :	max. 90 V
Voltage UL/CSA :	300 V
Testing voltage :	core/core 2,000 V core/screen 2,000 V
Min. bending radius	
fixed laying :	5 x d
flexible application :	10 x d
continuously flexible :	15 x d
Temperature range	UL: up to + 80°C
fixed laying :	-40/+70 °C
flexible application :	-40/+70 °C
Halogen-free :	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance :	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance (100 MHz) :	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.
Absence of harmful substances :	acc. to RoHS directive of the European Union

item no.	Dimension	outer-ø ± 10% (mm)	Copper figure (kg/km)	cable weight (≈kg/km)
17771630	2 x 26/7 AWG	4,6	16,9	29
17771230	2 x 22/19 AWG	5,7	22,7	40

Other dimensions and colours are possible on request.

S CB 628

Halogen-free CAN-bus cable for cable tracks with UL recognition



Marking for S CB 628 06282251:
SAB BRÖCKSKES · D-VIERSEN · 06282251 1x2x0,25mm² S CB 628 24 AWG/1pr AWM Style 20233 80°C 300 V CE

Construction (구조)

- 도체 : bare copper strands, extra fine wires
- 절연체 : PE, 2Y11 acc. to EN 50290-2-23 + VDE 0819-103
- 선심식별 : acc. to DIN 47100
- 내부시스 : SABIX®
- 테이핑 : non-woven tape
- 차폐 : tinned copper braiding
- 시스 소재 : PUR, TMPU acc. to EN 50363-10-2 with rough surface
- 시스 색상 : Redlilac (RAL 4001)

Characteristics (특징)

- UL 인증 (UL recognition)
- 케이블 트랙에 적합한 (suitable for cable tracks)
- 할로겐 프리 (halogen-free)
- 난연성 및 자기 소화성 (flame retardant and self-extinguishing)
- 매우 우수한 내유성 (very good oil resistance)
- 우수한 내화학성 (good chemical resistance)
- 매우 우수한 내후성 (very good weather resistance)

Technical data (기술 데이터)

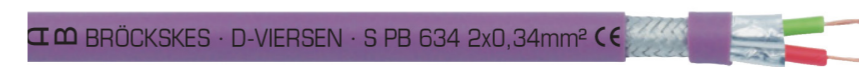
Peak operating voltage :	max. 350 V
Voltage UL :	300 V
Min. bending radius :	7,5 x d
Testing voltage :	core/core 2,000 V core/screen 2,000 V
Radiation resistance :	5 x 10 ⁷ cJ/kg
Temperature range	UL : up to + 80°C
fixed laying :	-40/+70 °C
flexible application :	-40/+70 °C
Halogen-free :	acc. to IEC 60754-1 + VDE 0482-754-1
Fire performance :	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance :	very good - acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chem. resistance :	good against acids, alkalines, solvents, hydraulic liquids etc.
Characteristic impedance :	120 Ω (95 - 140 Ω)
Flexibility :	very good
Application in cable tracks :	recommended
Weather resistance :	very good
UL Style :	20549
Absence of harmful substances :	acc. to RoHS directive of the European Union, see chapter N „Technical data“

item no.	Dimension	outer-ø approx. (mm)	Copper figure (kg/km)	Cable weight (≈kg/km)
06282251	2 x 0,25 mm ²	7,9	20,2	77
06282341	2 x 0,34 mm ²	8,3	22,9	84
06282501	2 x 0,50 mm ²	8,7	29	81
06284251	2 x 2 x 0,25 mm ²	9,1	27,9	98
06284341	2 x 2 x 0,34 mm ²	9,6	32,7	105
06284501	2 x 2 x 0,50 mm ²	10,6	44,9	115

Other dimensions and colours are possible on request.

S PB 634

PUR Profibus-DP cable for cable tracks



Marking for S PB 634 06342341:
SAB BRÖCKSKES · D-VIERSEN · S PB 634 2x0,34mm² CE

Construction (구조)

- 도체 : 0,34 mm²: bare copper strands acc. to VDE 0812
1,00 mm²: bare copper strands acc. to IEC 60228, VDE 0295, class 6
- 개별 테이핑 : non-woven tape/alu foil
- 개별 시스 : TPE
- 절연체 : 0,34 mm²: EN 50290-2-23 + VDE 0819-103 (02Y11)
1,00 mm²: TPE
- 선심식별 : red, green (0,34 mm²); brown, light blue and green-yellow earth wire (1,0 mm²)
- 개별 차폐 : tinned copper braiding
- 연합 : in layers
- 시스 소재 : PUR, TMPU acc. to EN 50363-10-2 with rough surface
- 시스 색상 : Redlilac (RAL 4001)

Characteristics (특징)

- 케이블 트랙에 적합한 (suitable for cable tracks)
- 매우 우수한 내유성 (very good oil resistance)
- 매우 우수한 내후성 (very good weather resistance)

Technical data (기술 데이터)

Peak operating voltage :	max. 350 V
Testing voltage :	core/core 2,000V core/core 2,000V
Min. bending radius :	12 x d
Temperature range	
fixed laying :	-40/+80 °C
flexible application :	-40/+80 °C
Oil resistance :	very good - acc. to EN 50363-10-2 + VDE 0207-363-10-2
For fixed installation :	suitable
For flexible application :	suitable
Application in cable tracks :	recommended
Weather resistance :	very good
Absence of harmful substances :	acc. to RoHS directive of the European Union

item no.	Dimension	outer-ø approx. (mm)	Copper figure (kg/km)	Cable weight (≈kg/km)
06342341	2 x 0,34 mm ²	7,6	30,9	58
06344341	2 x 0,34 mm ² + 3 x 1,00 mm ²	10,2	58,8	108

Other dimensions and colours are possible on request.

Harnessed COAX cable

with high frequency connector assembly



DIFFERENT PLUG CONNECTORS
FOR HIGH FREQUENCY APPLICATIONS

Besides cable harnesses with BNC plug connectors, SAB BRÖCKSKES offers further harnesses for high frequency applications for example coax cables with UHF-, mini-UHF or SMB connectors. We don't have a standard product range but special products for individual application ranges. These special applications are for example the requirements on temperature or flexibility.

CABLE CONSTRUCTION

conductor: silver-plated copper strands 0,55 mm²
core insulation: polymer
screen: silver-plated copper braiding
outer sheath: special material
sheath colour: black (RAL 9005)

TECHNICAL DATA

temperature range
flexible application: -40°C/+125°C
fixed laying: -50°C/+125°C
short-time use: +150°C
special feature: silicone free, 75 Ω

Among others the following cable types belong to our delivery program:

- ✓ low-noise cable
- ✓ RG 316
- ✓ RG 58
- ✓ RG 179
- ✓ coax cables with 50 Ω or 75 Ω
- ✓ cables with heat resistant, flexible outer sheath up to +150°C

Please choose from the following plug connectors:

- UHF plug connector
- mini UHF plug connector
- MMCX plug connector
- SMB plug connector
- ...

SD 200 C TP

Continuously flexible paired TPE/PUR data cable with overall copper screen



marking example:
 SAB BRÖCKSKES · D-VIERSEN · SD 200 C TP 3 x 2 x 0,5 mm² CE



Construction (구조)

- 도체 : bare copper strands, extra fine wires
- 절연체 : TPE
- 선심식별 : with reference to DIN 47100
- 연합 : cores twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
- 테이핑 : non-woven tape
- 차폐 : tinned copper braiding
- 테이핑 : non-woven tape
- 시스 소재 : PUR, TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with mat surface
- 시스 색상 : grey (RAL 7032)

Characteristics (특징)

- 페인트 흡윤 장애 물질물(PWIS) 포함하지 않음 (PWIS uncritical) (PWIS= 페인트 도장 과정에서 표면에 결함을 유발할 수 있는 물질)
- 저온에서 유연한 (flexible at low temperatures)
- 할로겐 프리 (halogen-free)
- 10미터 이상 이동 가능 (travel > 10 m is possible)
- 차폐된, 우수한 EMC 특성 (screened, good EMC characteristics)
- 내유성 (oil resistant)
- 높은 내마모성 (high abrasion resistance)

Technical data (기술 데이터)

Peak operating voltage :	max. 350 V acc. to VDE 0812
Testing voltage :	core/core 1,500 V core/screen 1,200 V
Min. bending radius continuously flexible :	7,5 x d
Radiation resistance :	1 x 10 ⁷ cJ/kg
Temperature range fixed laying :	-50/+90 °C
flexible application :	-40/+90 °C
Halogen-free :	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance :	very good - TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance :	good against acids, alkalines, solvents, hydraulic liquids etc.
Continuous Flexibility :	very good
Weather resistance :	very good
Absence of harmful substances :	acc. to RoHS directive of the European Union

item no.	no. of cores x cross section (n x 2 x mm)	largest single wire (ø mm)	outer-0 ± 10% (mm)	Copper figure (kg/km)	Cable weight (≈kg/km)
07890214	2 x 2 x 0,14	0,11	4,4	17,4	29
07890314	3 x 2 x 0,14	0,11	4,9	20,2	30
07890414	4 x 2 x 0,14	0,11	5,6	24,7	40
07890514	5 x 2 x 0,14	0,11	6,0	28,8	43
07890614	6 x 2 x 0,14	0,11	6,4	31,5	52
07890714	7 x 2 x 0,14	0,11	6,7	35,9	59
07891014	10 x 2 x 0,14	0,11	7,9	47,5	72
07891414	14 x 2 x 0,14	0,11	9	62,7	97
07891814	18 x 2 x 0,14	0,11	10	89,6	127
07892514	25 x 2 x 0,14	0,11	11,7	114,3	167
07890225	2 x 2 x 0,25	0,11	4,9	21,8	33
07890325	3 x 2 x 0,25	0,11	5,5	28,3	41
07890425	4 x 2 x 0,25	0,11	6,4	36,1	51
07890525	5 x 2 x 0,25	0,11	6,9	41,1	60
07890625	6 x 2 x 0,25	0,11	7,1	47,3	69
07890725	7 x 2 x 0,25	0,11	7,4	54,1	81
07891025	10 x 2 x 0,25	0,11	8,9	70,8	100
07891425	14 x 2 x 0,25	0,11	10,9	108,7	150
07891825	18 x 2 x 0,25	0,11	11,6	133,4	185
07892525	25 x 2 x 0,25	0,11	13,8	171,9	259
07890234	2 x 2 x 0,34	0,11	5,2	20,3	38
07890334	3 x 2 x 0,34	0,11	5,8	34,9	47
07890434	4 x 2 x 0,34	0,11	6,9	43,2	62
07890534	5 x 2 x 0,34	0,11	7,4	53,1	72

item no.	no. of cores x cross section (n x 2 x mm)	largest single wire (ø mm)	outer-0 ± 10% (mm)	Copper figure (kg/km)	Cable weight (≈kg/km)
07890734	7 x 2 x 0,34	0,11	8	66,4	94
07891034	10 x 2 x 0,34	0,11	9,6	90,5	122
07891434	14 x 2 x 0,34	0,11	11,6	138,3	179
07891834	18 x 2 x 0,34	0,11	12,5	169,2	220
07892534	25 x 2 x 0,34	0,11	14,7	247,3	310
07890250	2 x 2 x 0,50	0,11	6,3	34,6	51
07890350	3 x 2 x 0,50	0,11	6,9	47,3	67
07890450	4 x 2 x 0,50	0,11	7,9	61,4	84
07890550	5 x 2 x 0,50	0,11	8,8	73,1	101
07890750	7 x 2 x 0,50	0,11	9,4	108,4	134
07891050	10 x 2 x 0,50	0,11	11,3	143,3	186
07891450	14 x 2 x 0,50	0,11	13,5	191,7	251
07891850	18 x 2 x 0,50	0,11	14,7	257,8	329
07892550	25 x 2 x 0,50	0,11	17	336,5	429
07890275	2 x 2 x 0,75	0,11	7,2	47,4	69
07890375	3 x 2 x 0,75	0,11	7,9	66,2	84
07890475	4 x 2 x 0,75	0,11	8,9	101	107
07890575	5 x 2 x 0,75	0,11	10,4	118,8	147
07890775	7 x 2 x 0,75	0,11	11,6	148	208
07891075	10 x 2 x 0,75	0,11	13,5	228	263
07891475	14 x 2 x 0,75	0,11	16,1	296,9	366
07891875	18 x 2 x 0,75	0,11	17,3	366,1	456
07892575	25 x 2 x 0,75	0,11	20,1	480,5	597

Other dimensions and colours are possible on request.

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