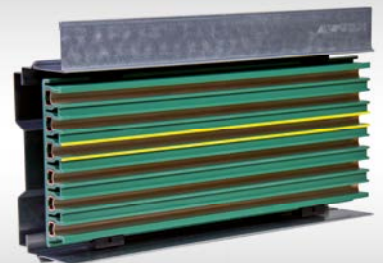
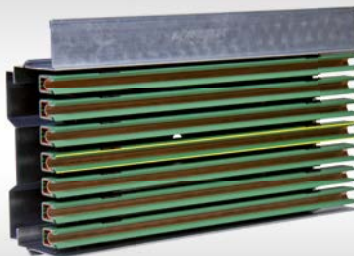
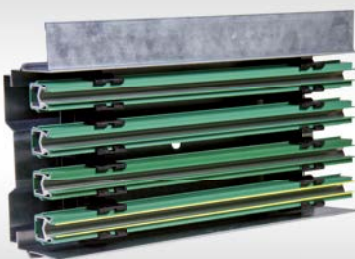




**AVAHLE**

## Multi Support Profile VMT

**SYSTEMS IN MOTION**





## Multi Support Profile (VMT)

### Content

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## The VAHLE solution for automation

The VAHLE Multi-Support-Profile VMT has been specifically designed to meet highly diverse requirements of storage and retrieval installations and transfer cars. For other applications such as crane technology, please ask us.

Advantage: VMT facilitates uncomplicated, fast installation of several VAHLE conductor systems.

VAHLE positioning systems may also be included.

Another plus is the large support center distance which reduces component cost and facilitates quick installation.

### System specifics

- Can be used with several VAHLE conductor systems
- Support center distance of up to 3.5 m (11'-6") possible
- Plug-in and clamping connection technology enables unprecedented fast installation
- Provides mechanical impact protection for conductor system
- Temperature fluctuations will not influence systems rigidity
- Integration of all VAHLE positioning systems

- Attachment hangers for all commonly used rack upright profiles
- 4 to 7 conductors
- 60 to 400 A
- Same profile regardless of conductor system
- Touch proof as per IP 23
- Electrically safe with potential equalization
- Simple and quick exchange of profile sections or subsections

### Possible system variants



U15  
Catalog 2c



U25  
Catalog 2c



VKS4  
Catalog 3b



VKS6  
Catalog 3b

### Accessory components

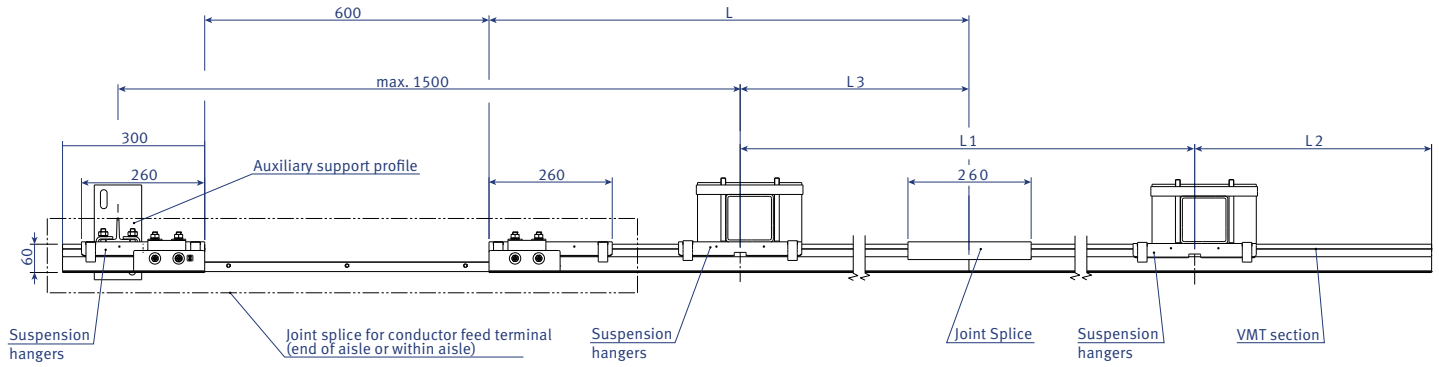


Data matrix tape



Bar code tape

# System layout



L = Length of VMT Multi Support Profile  
 L1 = Support center distance max 3,5 m

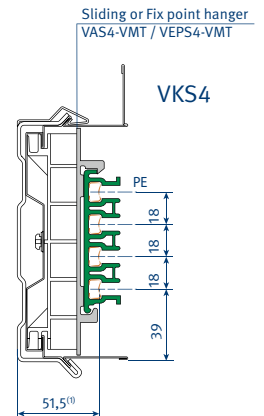
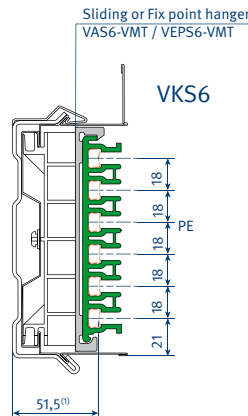
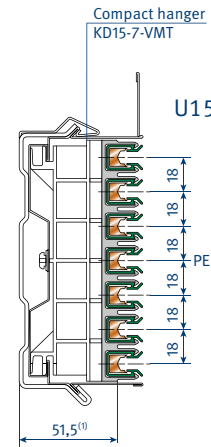
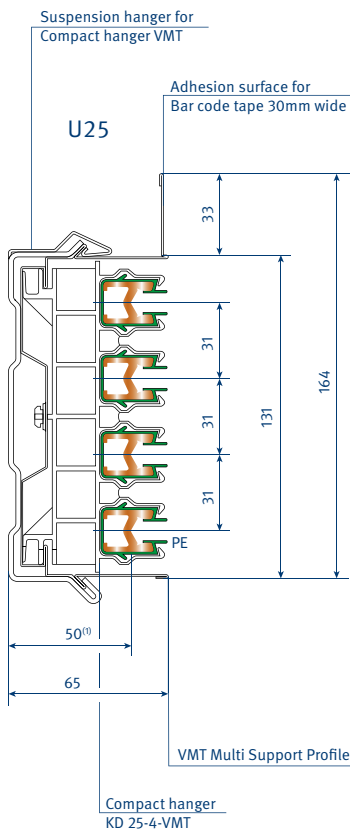
L2 = Overhang max 0,5m  
 L3 = Safety dimension for expansion min. 0,35 m

## Technical data

VMT Multi Support Profile: .....galvanized  
 Grid dimension compact hanger: .....100 mm  
 VMT Multi Support Profile length: ..... 6000 mm  
 Support hanger: ..... universal  
 Max. support center distance:  
 - lateral arrangement ..... 3,5 m  
 - pendant arrangement ..... 3,0 m

## System data<sup>(1)</sup>

Number of conductors: ..... 4 to 7  
 Max. Betriebsspannung: ..... 690 V  
 Current: ..... 60 to 400 A  
 Duty cycle: ..... 100 %  
 Approvals: ..... UL  
 Max. operating speed: ..... 600 m/min  
 Temperature range: ..... -30 bis +85° C  
 Application area: ..... Indoor systems



(1) Dimension support base to contact surface  
 (2) Dependent on installed conductor system



## VMT - Multi Support Profile

| Type     | Description                           | Weight kg | Order No. |
|----------|---------------------------------------|-----------|-----------|
| VMT-6000 | VAHLE Multi Support Profile, 6 m long | 12,336    | 171 546   |



## Joint splice

| Type   | Description           | Weight kg | Order No. |
|--------|-----------------------|-----------|-----------|
| KV-VMT | Clamping joint splice | 0,845     | 171 536   |

## Suspension hangers with auxiliary support



AH-VMT-HS

## Clamping suspension hangers



AH-VMT-SPW



AH-VMT 100-125<sup>(1)</sup>

## Bolted suspension hangers



AH-VMT-BS

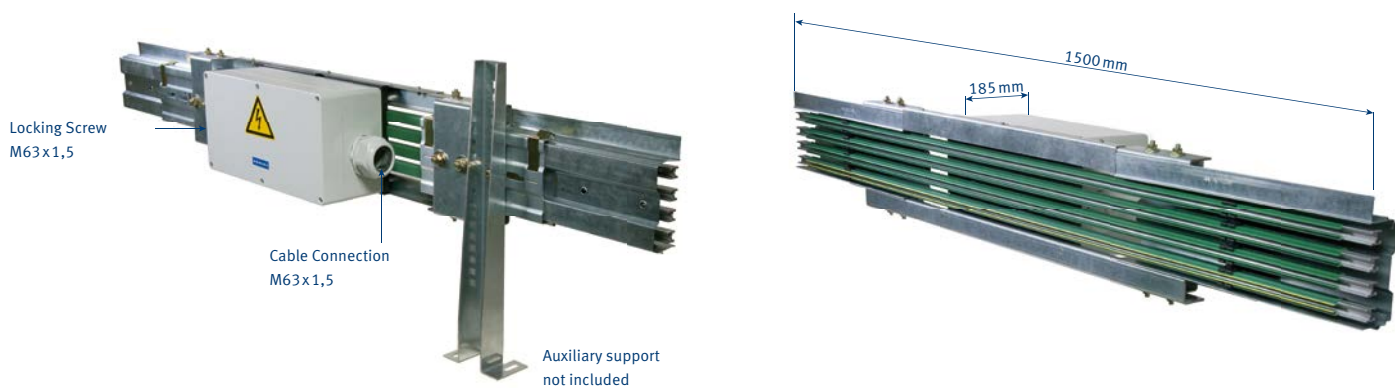


AH-VMT-S

## Suspension hangers

| Type           | Weight kg | Clamping range mm    | Order No. |
|----------------|-----------|----------------------|-----------|
| AH-VMT-HS-500  | 2,783     | -                    | 171 583   |
| AH-VMT -SPW    | 0,985     | max. 6 mm            | 171 539   |
| AH-VMT 100-115 | 1,603     | 100-115 <sup>1</sup> | 171 537   |
| AH-VMT 110-125 | 1,615     | 110-125 <sup>1</sup> | 171 538   |
| AH-VMT-BS      | 0,850     | -                    | 171 540   |
| AH-VMT-S       | 0,909     | -                    | 171 547   |

(1) Additional clamping dimensions available per request



## Feeding Module MEU25-VMT

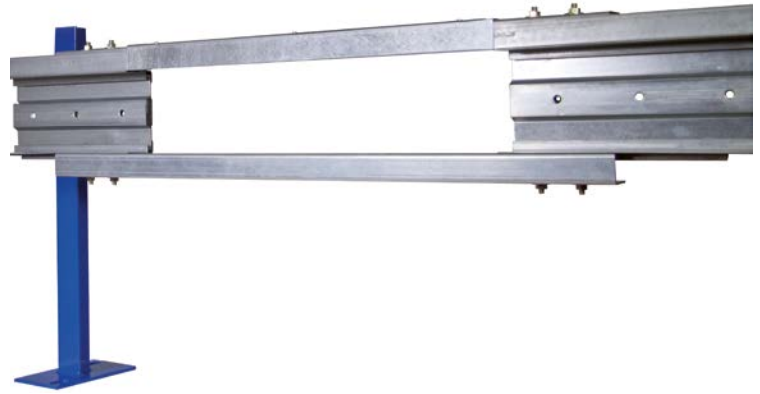
The power feed of the module MEU25, developed for the conductor system U25 in Vahle Multi Support Profile, is an ex works completely pre-assembled unit incl. a pre-fitted terminal box with a cable gland M63 x 1.5 for 4 - pole connecting cables with a max. cable diameter of 45 mm (also both sided connection possible). Two versions allow the connecting of conductor systems made of copper or aluminum steel. The mounting of the power feed can be carried out in the aisle or at the end of the aisle. The power feed module also serves as a fixed point of the bus bars.

| Type            | Description                      | Weight kg | Order No. |
|-----------------|----------------------------------|-----------|-----------|
| MEU25/125AE-VMT | Feeding Module U25 AE 320 Ampere | 20,205    | 171 585   |
| MEU25/125C-VMT  | Feeding Module U25 C 450 Ampere  | 25,000    | 171 584   |

(1) Additional clamping dimensions available per request

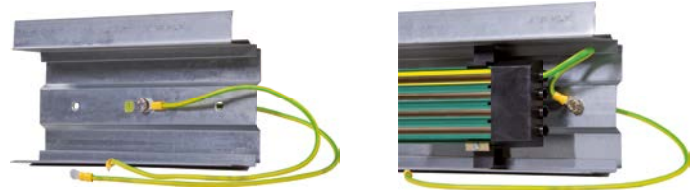
## Joint splice BCB

to accommodate conductor feed terminals



| Type         | Description                | Weight kg | Order No. |
|--------------|----------------------------|-----------|-----------|
| VMTB900-ESST | Connection within aisle    | 10,500    | 171 548   |
| VMTB900-ESAE | Connection at end of aisle | 11,100    | 171 549   |

## Potential equalization



| Type                  | Description                            | Weight kg | Order No. |
|-----------------------|--|-----------|-----------|
| VSPA-VMT-600          | Connection set U15   U25               | 0,300     | 171 563   |
| VSPA-VMT-200-VKS4-R   | Connection set VKS4 (r.h. side)        | 0,443     | 171 564   |
| VSPA-VMT-200-VKS4-L   | Connection set VKS4 (l.h. side)        | 0,443     | 171566    |
| VSPA-VMT-200-VKS5+6-R | Connection set VKS5   VKS6 (r.h. side) | 0,457     | 171 565   |
| VSPA-VMT-200-VKS5+6-L | Connection set VKS5   VKS6 (l.h. side) | 0,457     | 171 567   |



Cutting guide



Installation pliers

## Installation tools

| Type    | Description                           | Weight kg | Order No. |
|---------|---------------------------------------|-----------|-----------|
| SVU-VMT | Cutting guide for sub-sections        | 2,570     | 171 561   |
| MZ-VMT  | Installation pliers for Joint splices | 0,700     | 171 533   |

## VAHLE Conductor systems for VMT

### Insulated conductors U15C

| Type              | Description       | Weight kg | Order No. |
|-------------------|-------------------|-----------|-----------|
| U15/25C-6000PH-BA | 6m Section, phase | 1,800     | 162 136   |
| U15/25C-6000PE-AA | 6m Section, PE    | 1,800     | 162 196   |
| VM-UV15-K4        | Joint splice      | 0,040     | 160 102   |
| ES-UE15-K4        | Feed terminal     | 0,040     | 160 107   |
| ES-UEG15-K4       | Feed terminal     | 0,060     | 160 216   |
| KD15-7-VMT        | Compact hanger    | 0,048     | 171 524   |
| FP-USK15-K4       | Locating clamp    | 0,030     | 160 106   |
| EK-UK15-L         | End cap           | 0,010     | 160 109   |

### Insulated conductors U25C

| Type               | Description       | Weight kg | Order No. |
|--------------------|-------------------|-----------|-----------|
| U25/100C-6000PH-BA | 6m Section, phase | 6,110     | 171 046   |
| U25/100C-6000PE-AA | 6m Section, PE    | 6,110     | 171 146   |
| VM-UV25            | Joint splice      | 0,190     | 170 595   |
| KD25-4-VMT         | Compact hanger    | 0,044     | 171 523   |
| FP-USK25-K4        | Locating clamp    | 0,026     | 170 010   |
| ES-UE25-L-B        | Feed terminal     | 0,190     | 170 599   |
| ES-UEG25-L-B       | Feed terminal     | 0,560     | 170 597   |
| EK-UK25-L          | End cap           | 0,005     | 170 013   |

### Insulated conductors U25AE

| Type                | Description   | Weight kg | Order No. |
|---------------------|---|-----------|-----------|
| U25/90AE-6000PH-BA  | 6m Section, phase   90 mm <sup>2</sup> cross section  | 2,630     | 171 246   |
| U25/90AE-6000PE-AA  | 6m Section, PE   90 mm <sup>2</sup> cross section     | 2,630     | 171 256   |
| U25/125AE-6000PH-BA | 6m Section, phase   125 mm <sup>2</sup> cross section | 3,290     | 171 286   |
| U25/125AE-6000PE-AA | 6m Section, PE   125 mm <sup>2</sup> cross section    | 3,290     | 171 296   |
| VM-UV25AE-B         | Joint splice  | 0,150     | 170 960   |
| KD25-4-VMT          | Compact hanger  | 0,044     | 171 523   |
| FP-USK25-K4         | Locating clamp  | 0,026     | 170 010   |
| ES-UE25AE-L-B       | Feed terminal   | 0,150     | 171 158   |
| ES-UEG25AE-L-B      | Feed terminal   | 0,460     | 170 962   |
| EK-UK25-L           | End cap   | 0,005     | 170 013   |



## VAHLE Conductor systems for VMT

### Enclosed compact conductors VKS4

| Type             | Description                                | Weight kg | Order No. |
|------------------|--|-----------|-----------|
| VKS4/60-6000HSA  | 6m Section HS   60 A                       | 8,880     | 153 996   |
| VKS4/100-6000HSA | 6m Section HS   100 A                      | 10,248    | 154 006   |
| VKS4/120-6000HSA | 6m Section HS   120 A                      | 11,094    | 154 016   |
| VKS4/140-6000HSA | 6m Section HS   140 A                      | 11,904    | 154 316   |
| VM-SVN4/10-100   | Joint splice material up to 100 A          | 0,142     | 156 535   |
| VM-SVN4/120-140  | Joint splice material from 120 A           | 0,136     | 156 536   |
| ES-VNS4/60-140   | Line feed with terminal box                | 1,984     | 157 146   |
| ES-VLS4/60       | Line feed with single cables   10 - 60 A   | 0,061     | 156 947   |
| ES-VLS4/100-120  | Line feed with single cables   100 - 120 A | 0,179     | 156 943   |
| ES-VLS4/140      | Line feed with single cables   140 A       | 0,239     | 156 957   |
| VAS4-VMT         | Sliding hangers                            | 0,036     | 171 526   |
| VEPS4-VMT        | Fix point hangers                          | 0,042     | 171 527   |
| EK-VES4-L        | End cap, lose                              | 0,040     | 150 140   |

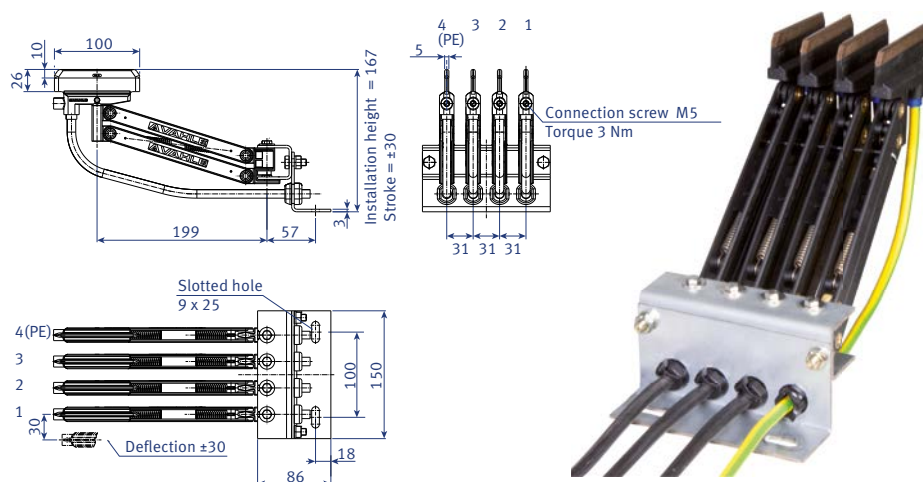
### Enclosed compact conductors VKS5

| Type             | Description                                | Weight kg | Order No. |
|------------------|--|-----------|-----------|
| VKS5/60-6000HSA  | 6m Section HS   60 A                       | 12,348    | 154 096   |
| VKS5/100-6000HSA | 6m Section HS   100 A                      | 13,752    | 154 106   |
| VKS5/120-6000HSA | 6m Section HS   120 A                      | 14,628    | 154 116   |
| VKS5/140-6000HSA | 6m Section HS   140 A                      | 15,438    | 154 876   |
| VM-SVN5/10-100   | Joint splice material up to 100 A          | 0,180     | 156 537   |
| VM-SVN5/120-140  | Joint splice material from 120 A           | 0,188     | 156 538   |
| ES-VNS5/60-140   | Line feed with terminal box                | 2,133     | 157 145   |
| ES-VLS5/60       | Line feed with single cables   10 - 60 A   | 0,145     | 156 946   |
| ES-VLS5/100-120  | Line feed with single cables   100 - 120 A | 0,119     | 156 942   |
| ES-VLS5/140      | Line feed with single cables   140 A       | 0,129     | 156 956   |
| VAS6-VMT         | Sliding hangers                            | 0,036     | 171 525   |
| VEPS6-VMT        | Fix point hangers                          | 0,042     | 171 528   |
| EK-VES6-L        | End cap, lose                              | 0,050     | 152 140   |

## VAHLE Conductor systems for VMT

### Enclosed compact conductors VKS5

| Type             | Description                               | Weight kg | Order No. |
|------------------|---|-----------|-----------|
| VKS6/60-6000HSA  | 6m Section HS   60A                       | 13,278    | 154 196   |
| VKS6/100-6000HSA | 6m Section HS   100A                      | 14,616    | 154 206   |
| VKS6/120-6000HSA | 6m Section HS   120A                      | 15,460    | 154 216   |
| VKS6/140-6000HSA | 6m Section HS   140A                      | 16,158    | 152 606   |
| VM-SVN6/10-100   | Joint splice material up to 100A          | 0,194     | 156 539   |
| VM-SVN6/120-140  | Joint splice material from 120A           | 0,194     | 156 540   |
| ES-VNS6/60-140   | Line feed with terminal box               | 2,266     | 157 144   |
| ES-VLS6/60       | Line feed with single cables   10 - 60A   | 0,123     | 156 945   |
| ES-VLS6/100-120  | Line feed with single cables   100 - 120A | 0,255     | 156 941   |
| ES-VLS6/140      | Line feed with single cables   140A       | 0,359     | 156 955   |
| VAS6-VMT         | Sliding hangers                           | 0,036     | 171 525   |
| VEPS6-VMT        | Fix point hangers                         | 0,042     | 171 528   |
| EK-VES6-L        | End cap, lose                             | 0,050     | 152 140   |



### SA-KEH 100 for U 25 conductors

Contact pressure approx. 12 N per collector brush

Number of poles: 4

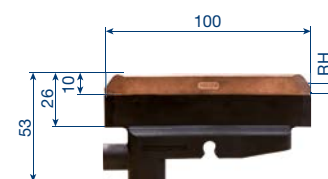
Connection cable 16 mm<sup>2</sup>, 2 m lang

Max. current: 100A

Deflection ± 30 mm

| Type                         | Weight kg | Number of poles | Base plate  | Order-No.     |
|------------------------------|-----------|-----------------|-------------|---------------|
| SA-KEH100-4-31HSAD-2,0-04-04 | 3,100     | 4               | PE at No. 4 | 171 529/00-D2 |
| SA-KEH100-4-31HSAD-2,0-01-04 | 3,100     | 4               | PE at No. 1 | 171 530/00-A2 |

### Collector brushes



| Type             | Weight kg | Thickness of brush mm | Replacement brush height mm | für collector | Order-No. |
|------------------|-----------|-----------------------|-----------------------------|---------------|-----------|
| SK-KMK100/KEH-04 | 0,077     | 4                     | 1,50                        | KEH 100       | 1000 0053 |

### Compact current collector sets SA-KESR for U15 and VKS

Contact pressure approx. 3.5 N per brush  
Number of poles: 4-7  
Connection cable : 2,5 to 10 mm<sup>2</sup>  
Max. current: 32 to 63 A  
Deflection: ± 15 mm



Standard

### Compact current collector sets SA-KESL for U15 and VKS

Contact pressure approx. 7 N per brush  
Number of poles: 4-7  
Connection cable : 2,5 to 10 mm<sup>2</sup>  
Max. current: 32 to 63 A  
Deflection: ± 30 mm



with adapter



with adapter and  
cable terminals



For additional information see catalogs VKS (3b) and U15 (2c)

# Scope of delivery and services

Catalog no.

|   |     |
|---|-----|
| <b>1 Open conductor systems</b>                 |     |
| Open conductor systems                          | 1a  |
| <b>2 Insulated conductor systems</b>            |     |
| U10   | 2a  |
| FABA 100  | 2b  |
| U15, U25, U35                                   | 2c  |
| U20, U30, U40                                   | 2d  |
| <b>3 Compact conductor systems</b>              |     |
| VKS 10  | 3a  |
| VKS - VKL                                       | 3b  |
| VMT   | 3c  |
| <b>4 Enclosed conductor systems</b>             |     |
| KBSL - KSL                                      | 4a  |
| KBH   | 4b  |
| MKH   | 4c  |
| LSV - LSVG                                      | 4d  |
| <b>5 Contactless power supply</b>               |     |
| Contactless power supply (CPS®)                 | 5a  |
| <b>6 Data transmission</b>                      |     |
| VAHLE Powercom®                                 | 6a  |
| Slotted Microwave Guide (SMG)                   | 6b  |
| <b>7 Positioning systems</b>                    |     |
| VAHLE APOS®                                     | 7a  |
| VAHLE APOS® Optic                               | 7b  |
| <b>8 Festoon systems and cables</b>             |     |
| Festoon systems for □-tracks                    | 8a  |
| Festoon systems for flatform cables on I-tracks | 8b  |
| Festoon systems for round cables on I-tracks    | 8c  |
| Festoon systems for ◇-tracks                    | 8d  |
| Cables  | 8e  |
| <b>9 Reels</b>                                  |     |
| Spring-operated cable reels                     | 9a  |
| Motor-powered cable reels                       | 9b  |
| <b>10 Other</b>                                 |     |
| Battery charging systems                        | 10a |
| Heavy enclosed conductor systems                | 10b |
| Tender  | 10c |
| Contact wire                                    | 10d |
| <b>11 Automotive   Handling</b>                 |     |
| Control systems                                 | 11a |
| BOK   | 11b |
| <b>Assemblies / Commissioning</b>               |     |
| <b>Spare parts / Maintenance service</b>        |     |



DQS certified in accordance with DIN EN ISO 9001:2008  
OHSAS 18001 (Reg.No. 003140 QM OH)

 **VAHLE**  
ELECTRIFICATION SYSTEMS