

A5: Data transmission cables for low-frequency analog/digital transmissions

| Application Criteria                                                             | Cable and Lead Designation |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
|----------------------------------------------------------------------------------|----------------------------|-----------------|----------------------|----------------------|------------------------|-----------------|----------------------|----------------|-------------------|-----------------------|------------------------|
|  | UNITRONIC® LYVY            | UNITRONIC® LYCY | UNITRONIC® LYVY (TP) | UNITRONIC® LYCY (TP) | UNITRONIC® PUR CP (TP) | UNITRONIC® LIHH | UNITRONIC® LIHC (TP) | UNITRONIC® 100 | UNITRONIC® 100 CY | UNITRONIC® LYFCY (TP) | UNITRONIC® CY/PDY (TP) |
| <b>Application</b>                                                               |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| Additional control/time recording systems (ZK/ZE)                                |                            |                 |                      | ○                    | ○                      |                 | ○                    |                |                   |                       | ●                      |
| Operating data acquisition (BDE)                                                 |                            |                 | ○                    | ○                    | ○                      |                 | ○                    |                |                   |                       |                        |
| Clock systems                                                                    |                            |                 | ○                    | ○                    |                        |                 |                      |                |                   |                       |                        |
| Forced entry alarm systems (EMA)                                                 | ○                          | ○               | ○                    |                      |                        | ○               |                      |                | ○                 |                       | ●                      |
| Fire alarm systems (BMA)                                                         |                            |                 |                      |                      |                        |                 |                      |                |                   |                       | ○                      |
| Telephone extension systems                                                      |                            |                 |                      |                      |                        |                 |                      |                |                   |                       | ○                      |
| Interphone/Duplex systems                                                        | ○                          | ○               | ○                    | ○                    | ○                      | ○               | ○                    |                | ○                 | ○                     |                        |
| Electroacoustic systems (ELA/PA)                                                 |                            |                 |                      |                      |                        |                 |                      |                |                   |                       | ○                      |
| Sound studio cable/microphone cable                                              | ○                          | ○               | ○                    | ○                    | ○                      | ○               | ○                    | ○              | ○                 | ○                     |                        |
| Printer/Plotter                                                                  |                            |                 | ○                    | ○                    |                        |                 | ○                    |                |                   | ●                     | ○                      |
| Direct current stepping motors                                                   |                            |                 | ●                    | ●                    |                        | ●               |                      |                |                   |                       |                        |
| Encoder                                                                          |                            |                 | ●                    | ●                    |                        | ●               |                      |                |                   | ○                     |                        |
| Industrial sensors, U < 50 Veff                                                  | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ○                     | ●                      |
| Industrial actuators, U < 50 Veff                                                | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ●                      |
| Measurement and control system, analog (MSR)                                     | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ●                      |
| MSR, digital                                                                     | ○                          | ○               | ○                    | ○                    | ○                      | ○               | ○                    | ○              | ○                 | ○                     | ○                      |
| In electronic instruments                                                        | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ○                      |
| For cutting/clipping technology (0.34 mm²/AWG 22)                                | ●                          | ●               |                      | ●                    | ●                      | ●               |                      | ●              | ●                 |                       |                        |
| <b>Temperature range</b>                                                         |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| +80 °C                                                                           | □                          | □               |                      |                      |                        |                 |                      | □              | □                 | □                     |                        |
| +70 °C                                                                           | ■                          | ■               | □                    | □                    | ■                      | □               | □                    | ■              | □                 | ■                     | ■                      |
| +60 °C                                                                           |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| -5 °C                                                                            | ■                          | ■               |                      | ■                    | ■                      |                 |                      | ■              | ■                 |                       | ■                      |
| -20 °C                                                                           |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| -30 °C                                                                           | □                          | □               | □                    | □                    | □                      | □               | □                    | □              | □                 | □                     | □                      |
| -40 °C                                                                           |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |

● = Principal application  
 ○ = Application not customary, but possible, or alternative design available in the range  
 ■ = Temperature range for flexible laying  
 □ = Temperature range for static and flexible laying  
 □ = Temperature range for static laying

Further halogen free cables and leads on request.

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| Application Criteria                                                              | Cable and Lead Designation |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
|-----------------------------------------------------------------------------------|----------------------------|-----------------|----------------------|----------------------|------------------------|-----------------|----------------------|----------------|-------------------|-----------------------|------------------------|
|  | UNITRONIC® LYVY            | UNITRONIC® LYCY | UNITRONIC® LYVY (TP) | UNITRONIC® LYCY (TP) | UNITRONIC® PUR CP (TP) | UNITRONIC® LIHH | UNITRONIC® LIHC (TP) | UNITRONIC® 100 | UNITRONIC® 100 CY | UNITRONIC® LYFCY (TP) | UNITRONIC® CY/PDY (TP) |
| <b>Laying</b>                                                                     |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| For static laying outdoors                                                        |                            |                 |                      |                      |                        |                 |                      |                |                   |                       | ○                      |
| For direct laying underground                                                     | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ○                      |
| For static installation (indoors)                                                 | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ○                      |
| For flexible laying (indoors) occasionally                                        | ●                          | ○               | ○                    | ○                    | ○                      | ○               | ○                    | ○              | ○                 | ○                     | ○                      |
| For continuous flexible laying (indoors/outdoors)                                 |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| <b>Make-up</b>                                                                    |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| Halogen free                                                                      | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ●                      |
| Flame retardant, self extinguishing                                               | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ●                      |
| For electr. symmetrical signal transmission (TP), twisted pair                    |                            |                 | ●                    | ●                    | ●                      |                 |                      |                |                   | ●                     | ●                      |
| For high end coupling of the pairs, screened                                      |                            |                 |                      |                      |                        |                 |                      |                |                   |                       | ●                      |
| For electrical screening effect, total screening                                  | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ●                      |
| For low attenuation transmission, low capacitance                                 |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| With individually screened cores                                                  |                            |                 |                      |                      |                        |                 |                      |                |                   | ●                     |                        |
| With combined core pairs/individual conductors                                    | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ●                      |
| With colour code DIN 47100                                                        | ●                          | ●               | ●                    | ●                    | ●                      | ●               | ●                    | ●              | ●                 | ●                     | ●                      |
| With UNITRONIC® colour code                                                       |                            |                 |                      |                      |                        |                 |                      |                |                   | ●                     | ●                      |
| With industrial electronics colour code VDE 0815                                  |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| With star-quad colour code "BD" to VDE 0815/0816                                  |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| With pair colour code "LG" to VDE 0815                                            |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| With special colour code                                                          |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| With numbered cores                                                               |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |
| With PVC/special PVC outer sheath                                                 | ●                          | ●               | ●                    | ●                    |                        |                 |                      | ●              | ●                 | ●                     | ●                      |
| With PUR sheath, wear resistant, cutting resistant                                |                            |                 | ●                    | ●                    |                        |                 |                      |                |                   |                       | ●                      |
| With PE outer sheath (not flame-retardant)                                        |                            |                 |                      |                      |                        |                 |                      |                |                   |                       |                        |

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|---------------------------------------------------|----------------------------|---------------|------------------|----------------------|----------------------------|-----------------------------------|----------------------|-----------|---------------|---------------------------------|
|                                                   | UNITRONIC® ST              | UNITRONIC® FD | UNITRONIC® FD CY | UNITRONIC® FD P plus | UNITRONIC® FD CP (TP) plus | UNITRONIC® L2YCY (TP)-Li2YCV (TP) | UNITRONIC® L2YCY PMF | JE-Y(STY) | JE-LIYCY (TP) | Telephone indoor cable J-Y(STY) |
|                                                   |                            |               |                  |                      |                            |                                   |                      |           |               | Fire alarm cable J-Y(STY) red   |
|                                                   |                            |               |                  |                      |                            |                                   |                      |           |               | UNITRONIC® J2Y(STY)             |
|                                                   |                            |               |                  |                      |                            |                                   |                      |           |               | Telephone outdoor cable         |
| Application                                       |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| Additional control/time recording systems (ZK/ZE) | ●                          |               |                  |                      |                            |                                   |                      | ●         | ●             | ●                               |
| Operating data acquisition (BDE)                  | ●                          |               |                  |                      |                            |                                   |                      | ●         | ●             | ●                               |
| Clock systems                                     |                            |               |                  |                      |                            |                                   |                      | ●         | ●             | ●                               |
| Forced entry alarm systems (EMA)                  |                            |               |                  |                      |                            | ○                                 | ○                    |           | ○             | ○                               |
| Fire alarm systems (BMA)                          |                            |               |                  |                      |                            | ○                                 | ○                    |           | ○             | ○                               |
| Telephone extension systems                       |                            |               |                  |                      |                            | ○                                 | ○                    |           | ●             | ●                               |
| Interphone/Duplex systems                         |                            |               |                  |                      |                            | ●                                 | ●                    | ○         | ●             | ●                               |
| Electroacoustic systems (ELA/PA)                  |                            |               |                  |                      |                            | ●                                 | ●                    | ○         | ●             | ●                               |
| Sound studio cable/microphone cable               |                            |               |                  |                      |                            | ●                                 | ●                    |           |               |                                 |
| Printer/Plotter                                   |                            | ●             | ○                | ●                    | ○                          | ●                                 | ●                    |           |               |                                 |
| Direct current stepping motors                    |                            |               |                  |                      |                            | ●                                 | ●                    | ○         |               |                                 |
| Encoder                                           |                            |               |                  |                      |                            | ●                                 | ●                    | ○         |               |                                 |
| Industrial sensors, U < 50 Veff                   |                            | ●             | ●                | ●                    | ●                          | ●                                 | ●                    | ○         |               |                                 |
| Industrial actuators, U < 50 Veff                 |                            | ●             | ●                | ●                    | ●                          | ●                                 | ●                    | ○         |               |                                 |
| Measurement and control system, analog (MSR)      |                            | ●             | ●                | ●                    | ●                          | ●                                 | ●                    | ○         |               | ○                               |
| MSR, digital                                      |                            | ●             | ●                | ●                    | ●                          | ●                                 | ●                    |           | ○             | ○                               |
| In electronic instruments                         |                            | ●             | ●                | ●                    | ●                          | ●                                 | ●                    |           |               |                                 |
| For cutting/clipping technology (0.34 mm²/AWG 22) | ●                          | ●             | ●                |                      |                            | ●                                 | ○                    | ●         | ●             | ●                               |
| Temperature range                                 |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| +80 °C                                            | □                          | □             | □                | □                    | □                          |                                   |                      |           | □             | □                               |
| +70 °C                                            |                            | ■             | ■                | ■                    | ■                          |                                   |                      |           | □             | □                               |
| +60 °C                                            |                            |               |                  |                      |                            |                                   |                      |           | □             | □                               |
| -5 °C                                             |                            | ■             | ■                |                      |                            |                                   |                      |           |               | □                               |
| -20 °C                                            |                            |               |                  |                      |                            |                                   |                      |           |               | □                               |
| -30 °C                                            | □                          | □             | □                |                      |                            | □                                 | □                    | □         |               |                                 |
| -40 °C                                            |                            |               |                  | ■                    | ■                          |                                   |                      |           |               |                                 |

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|                                                                | UNITRONIC® ST              | UNITRONIC® FD | UNITRONIC® FD CY | UNITRONIC® FD P plus | UNITRONIC® FD CP (TP) plus | UNITRONIC® L2YCY (TP)-Li2YCV (TP) | UNITRONIC® L2YCY PMF | JE-Y(STY) | JE-LIYCY (TP) | Telephone indoor cable J-Y(STY) |
|                                                                |                            |               |                  |                      |                            |                                   |                      |           |               | Fire alarm cable J-Y(STY) red   |
|                                                                |                            |               |                  |                      |                            |                                   |                      |           |               | UNITRONIC® J2Y(STY)             |
|                                                                |                            |               |                  |                      |                            |                                   |                      |           |               | Telephone outdoor cable         |
| Laying                                                         |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| For static laying outdoors                                     |                            |               |                  |                      |                            | ○                                 |                      |           |               | ●                               |
| For direct laying underground                                  |                            |               |                  |                      |                            |                                   |                      |           |               | ○                               |
| For static installation (indoors)                              | ●                          | ○             | ○                |                      |                            |                                   |                      |           |               | ●                               |
| For flexible laying (indoors) occasionally                     | ●                          | ●             | ○                | ○                    | ○                          |                                   | ●                    | ○         |               |                                 |
| For continuous flexible laying (indoors/outdoors)              |                            |               |                  | ●                    | ●                          |                                   | ●                    |           |               |                                 |
| Make-up                                                        |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| Halogen free                                                   |                            |               |                  | ●                    | ●                          |                                   |                      |           |               |                                 |
| Flame retardant, self extinguishing                            | ●                          | ●             | ●                | ●                    | ●                          |                                   | ●                    | ●         | ●             | ○                               |
| For electr. symmetrical signal transmission (TP), twisted pair |                            |               |                  |                      |                            | ●                                 | ●                    | ●         | ○             |                                 |
| For high end coupling of the pairs, screened                   |                            |               |                  |                      |                            |                                   | ●                    |           |               |                                 |
| For electrical screening effect, total screening               | ●                          | ●             |                  | ●                    | ●                          |                                   | ●                    | ●         | ○             | ●                               |
| For low attenuation transmission, low capacitance              |                            |               |                  | ●                    | ●                          |                                   | ●                    |           |               | ●                               |
| With individually screened cores                               |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| With combined core pairs/individual conductors                 |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| With colour code DIN 47100                                     | ●                          | ●             | ●                | ●                    | ●                          | ●                                 | ●                    |           |               |                                 |
| With UNITRONIC® colour code                                    |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| With industrial electronics colour code VDE 0815               |                            |               |                  |                      |                            |                                   |                      | ●         | ●             |                                 |
| With star-quad colour code                                     |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| "BD" to VDE 0815/0816                                          |                            |               |                  |                      |                            |                                   |                      | ○         | ○             | ●                               |
| With pair colour code "LG" to VDE 0815                         |                            |               |                  |                      |                            |                                   |                      |           |               | ○                               |
| With special colour code                                       | ●                          |               |                  |                      |                            |                                   |                      |           |               |                                 |
| With numbered cores                                            |                            |               |                  |                      |                            |                                   |                      |           |               |                                 |
| With PVC/special PVC outer sheath                              | ●                          | ●             | ●                |                      |                            |                                   | ●                    | ●         | ●             | ●                               |
| With PUR sheath, wear resistant, cutting resistant             |                            |               |                  | ●                    | ●                          | ●                                 |                      |           |               |                                 |
| With PE outer sheath (not flame-retardant)                     |                            |               |                  |                      |                            |                                   |                      |           |               | ●                               |