

# SAB VFD Cable Selection Tool: ABB Variable Frequency Drives & Motors

| ABB Drives | ACS800-U1,-U11,-U31, ACS150, ACS310, ACS355, ACS550, ACH550, ACS850, ACSM1 |           |                | ACS800-U1,-PC,-U2,-U7,-07,-07LC, -U11,-17,-U31,-37, ACS150, ACS310, ACS355, ACS550, ACH550, ACS850, ACSM1 |           |                | ACS800-U1,-U7,-07,-07LC,-U11,-17,-U31,-37, ACS550, ACH550 |           |                |
|------------|--|-----------|----------------|---|-----------|----------------|---|-----------|----------------|
| HP         | AMPS 230V Motor*   | Cable AWG |                | AMPS 460V Motor*  | Cable AWG |                | AMPS 575V Motor*  | Cable AWG |                |
|            |  | 3/c + G   | 3/c + G & 1/pr |   | 3/c + G   | 3/c + G & 1/pr |   | 3/c + G   | 3/c + G & 1/pr |
| 0.25       | -  | 14        | 14             | -   | 16        | 16             | -   | 18        | 16             |
| 0.33       | -  | 14        | 14             | -   | 16        | 16             | -   | 18        | 16             |
| 0.5        | 2.2  | 14        | 14             | 1.1   | 16        | 16             | 0.9   | 18        | 16             |
| 1          | 4.2  | 14        | 14             | 2.1   | 16        | 16             | 1.7   | 18        | 16             |
| 2          | 6.8  | 14        | 14             | 3.4   | 16        | 16             | 2.7   | 18        | 16             |
| 3          | 9.6  | 14        | 14             | 4.8   | 16        | 16             | 3.9   | 18        | 16             |
| 4          | -  | 14        | 14             | -   | 14        | 14             | -   | 16        | 14             |
| 5          | 15.2   | 14        | 14             | 7.6   | 14        | 14             | 6.1   | 16        | 14             |
| 7.5        | 22   | 12        | 10             | 11  | 14        | 14             | 9   | 14        | 14             |
| 10         | 28   | 10        | 8              | 14  | 14        | 14             | 11  | 14        | 14             |
| 15         | 42   | 8         | 6              | 21  | 12        | 10             | 17  | 14        | 12             |
| 20         | 54   | 6         | -              | 27  | 10        | 8              | 22  | 12        | 10             |
| 25         | 68   | 4         | -              | 34  | 8         | 8              | 27  | 10        | 8              |
| 30         | 80   | 2         | -              | 40  | 8         | 6              | 32  | 10        | 8              |
| 40         | 104  | 2         | -              | 52  | 6         | -              | 41  | 8         | 6              |
| 50         | 130  | 1/0       | -              | 65  | 4         | -              | 52  | 6         | -              |
| 60         | 154  | 2/0       | -              | 77  | 2         | -              | 62  | 4         | -              |
| 75         | 192  | 4/0       | -              | 96  | 2         | -              | 77  | 2         | -              |
| 100        | 248  | 300 KCMIL | -              | 124   | 1/0       | -              | 99  | 2         | -              |
| 125        | 312  | 500 KCMIL | -              | 156   | 2/0       | -              | 125   | 1/0       | -              |
| 150        | 360  | -         | -              | 180   | 3/0       | -              | 144   | 2/0       | -              |
| 200        | 480  | -         | -              | 240   | 300 KCMIL | -              | 192   | 4/0       | -              |
| 250        | -  | -         | -              | 302   | 400 KCMIL | -              | 242   | 300 KCMIL | -              |
| 300        | -  | -         | -              | 361   | -         | -              | 289   | 400 KCMIL | -              |
| 350        | -  | -         | -              | 414   | -         | -              | 336   | 500 KCMIL | -              |
| 400-1350   | -  | -         | -              | -   | -         | -              | -   | -         | -              |

\*Note: The above table references the suggested wire AWG to use based on Horse Power (HP) and the Amperage, to calculate the Full Load Current (FLC) multiple Amps by 125% per NEC Art. 430-22 (G) (1) and (2) for small motors. For special motor types, NEC Art. 430-22 (A)-(G) may give additional restrictions for conductor sizes. Amperes (FLC) were determined from NEC Art. 430-250.

Values are based on normal duty horsepower and constant torque.  
For larger HP drives with no recommendation, cables can be in parallel.  
Please call your SAB Sales Professional for support.

### VFD XLPE TR



XLPE insulated, oil resistant and flexible VFD cable

### VFD Combo XLPE



Flexible VFD cable with 1 or 2 pairs for brake or temperature sensor

### VFD XLPE Auto TR



Continuous flex VFD cable

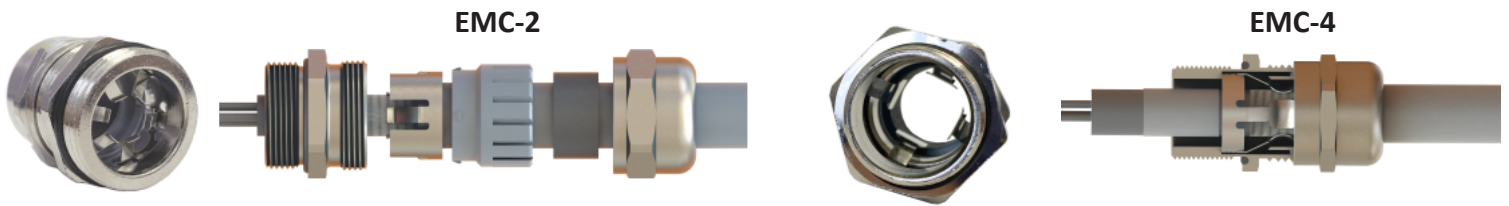
### VFD XLPE 2KV TR



Large AWG, 2KV VFD cable with 3 symmetrical grounds

# SAB EMC Cord Grip Grounding Solution

## ABB Variable Frequency Drives & Motors



- One Direction Installation
- Affordable
- Nickel Plated Brass with Tinned Copper Springs

- Bi-directional Installation
- Great Anti-Vibration Mechanisms
- Nickel Plated Brass with Tinned Copper Springs

### Recommended Grounding Connectors and Shielding Kit

| Part Number                 | AWG            | OD (in) | Metric Thread |         | PG Thread |        | NPT Thread |           | VFD Kit          |
|-----------------------------|----------------|---------|---------------|---------|-----------|--------|------------|-----------|------------------|
|                             |                |         | EMC-2         | EMC-4   | EMC-2     | EMC-4  | EMC-2      | EMC-4     |                  |
| <b>VFD XLPE TR</b>          |                |         |               |         |           |        |            |           |                  |
| 35681604                    | 16/4c          | 0.477   | EM2-25        | EM4-20C | EP2-16    | EP4-16 | EN2-3/4    | EN4-1/2C  | -                |
| 35681404                    | 14/4c          | 0.522   | EM2-25        | EM4-20C | EP2-16    | EP4-16 | EN2-3/4    | EN4-1/2C  | VFD GRD KIT 14-1 |
| 35681204                    | 12/4c          | 0.592   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35681004                    | 10/4c          | 0.680   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35680804                    | 8/4c           | 0.886   | EM2-32C       | EM4-32  | EP2-29    | EP4-29 | EN2-1      | EN4-1     | VFD GRD KIT 14-1 |
| 35680604                    | 6/4c           | 0.968   | EM2-40C       | EM4-40  | EP2-36    | EP4-36 | EN2-1      | EN4-1 1/4 | VFD GRD KIT 14-1 |
| 35680404                    | 4/4c           | 1.090   | EM2-40C       | EM4-40  | EP2-36    | EP4-36 | -          | EN4-1 1/4 | VFD GRD KIT 14-1 |
| 35680204                    | 2/4c           | 1.247   | EM2-50C       | EM4-50  | EP2-42    | EP4-42 | -          | EN4-1 1/2 | VFD GRD KIT 14-1 |
| <b>VFD COMBO XLPE</b>       |                |         |               |         |           |        |            |           |                  |
| 35691614                    | 16/4c (18/1pr) | 0.573   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | -                |
| 35691624D                   | 16/4c (16/1pr) | 0.580   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | -                |
| 35691414                    | 14/4c (18/1pr) | 0.616   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35691464                    | 14/4c (18/2pr) | 0.662   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35691424D                   | 14/4c (16/1pr) | 0.626   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35691404                    | 14/4c (14/1pr) | 0.628   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35691214                    | 12/4c (18/1pr) | 0.654   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35691264                    | 12/4c (18/2pr) | 0.698   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35691224D                   | 12/4c (16/1pr) | 0.673   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35691204                    | 12/4c (14/1pr) | 0.667   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35691064                    | 10/4c (18/2pr) | 0.762   | EM2-32C       | EM4-32  | EP2-29    | EP4-29 | EN2-1      | EN4-1     | VFD GRD KIT 14-1 |
| 35691024D                   | 10/4c (16/1pr) | 0.755   | EM2-32C       | EM4-32  | EP2-29    | EP4-29 | EN2-1      | EN4-1     | VFD GRD KIT 14-1 |
| 35691004                    | 10/4c (14/1pr) | 0.736   | EM2-32C       | EM4-32  | EP2-29    | EP4-29 | EN2-1      | EN4-1     | VFD GRD KIT 14-1 |
| 35690864                    | 8/4c (18/2pr)  | 0.961   | EM2-40C       | EM4-40  | EP2-36    | EP4-36 | EN2-1      | EN4-1 1/4 | VFD GRD KIT 14-1 |
| 35690804                    | 8/4c (14/1pr)  | 0.960   | EM2-40C       | EM4-40  | EP2-36    | EP4-36 | EN2-1      | EN4-1 1/4 | VFD GRD KIT 14-1 |
| 35690664                    | 6/4c (16/2pr)  | 1.032   | EM2-40C       | EM4-40  | EP2-36    | EP4-36 | -          | EN4-1 1/4 | VFD GRD KIT 14-1 |
| 35690604                    | 6/4c (14/1pr)  | 1.030   | EM2-40C       | EM4-40  | EP2-36    | EP4-36 | -          | EN4-1 1/4 | VFD GRD KIT 14-1 |
| 35690404                    | 4/4c (14/1pr)  | 1.140   | EM2-40C       | EM4-40  | EP2-36    | EP4-36 | -          | EN4-1 1/4 | VFD GRD KIT 14-1 |
| 35690204                    | 2/4c (14/1pr)  | 1.280   | EM2-50C       | EM4-50  | EP2-42    | EP4-42 | -          | EN4-1 1/2 | VFD GRD KIT 14-1 |
| <b>VFD SYMMETRICAL XLPE</b> |                |         |               |         |           |        |            |           |                  |
| 35681403                    | 14/3c          | 0.501   | EM2-25        | EM4-20C | EP2-16    | EP4-16 | EN2-3/4    | EN4-1/2C  | VFD GRD KIT 14-1 |
| 35681203                    | 12/3c          | 0.570   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35681003                    | 10/3c          | 0.642   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35680803                    | 8/3c           | 0.811   | EM2-32C       | EM4-32  | EP2-29    | EP4-29 | EN2-1      | EN4-1     | VFD GRD KIT 14-1 |
| 35680603                    | 6/3c           | 0.954   | EM2-32C       | EM4-32  | EP2-29    | EP4-29 | EN2-1      | EN4-1     | VFD GRD KIT 14-1 |
| 35680403                    | 4/3c           | 1.062   | EM2-40C       | EM4-40  | EP2-36    | EP4-36 | -          | EN4-1 1/4 | VFD GRD KIT 14-1 |
| 35680203                    | 2/3c           | 1.226   | EM2-50C       | EM4-50  | EP2-42    | EP4-42 | -          | EN4-1 1/2 | VFD GRD KIT 14-1 |
| <b>VFD XLPE AUTO</b>        |                |         |               |         |           |        |            |           |                  |
| 35781404                    | 14/4c          | 0.569   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35781204                    | 12/4c          | 0.646   | EM2-25C       | EM4-25  | EP2-21    | EP4-21 | EN2-3/4    | EN4-3/4   | VFD GRD KIT 14-1 |
| 35781004                    | 10/4           | 0.704   | EM2-32C       | EM4-32  | EP2-29    | EP4-29 | EN2-1      | EN4-1     | VFD GRD KIT 14-1 |

D at end of part number denotes overall full size drain

Last 2 digits in the part number designates the thread size.  
Call your SAB Sales Professional for price and availability.



866-722-2974 • [www.sabcable.com](http://www.sabcable.com)