

VFD CABLES FOR AUTOMATION

THE RIGHT SOLUTION FOR EVERY APPLICATION

**NEW
Products
Added**



VFD Lean TR



VFD Dual TR



Servo VFD Combo DS



VFD XLPE TR



VFD XLPE 2KV TR



**Also
Included!**



FLEXIBLE CONTROL · CONTINUOUS FLEX
SILICONE · TORSION · TRAY · VFD · DATA
SERVO MOTOR · EUROPEAN STYLE · BUS/CAT
HALOGEN-FREE · REELING · SPECIAL CUSTOM



VFD Lean TR: Reduced OD, oil resistant and flexible VFD cable

VFD Lean TR is an extremely flexible and oil resistant VFD cable. It is designed to perform in VFD applications where increases in voltage can occur due to spikes, harmonics, in-rush current and wave reflection. VFD Lean TR has a foil and tinned copper braid shield for 100% protection against EMI and RFI.



TECHNICAL DATA:

Voltage:	UL/c(UL):	600 V
	UR/CSA AWM:	1000 V
	UL WTTTC:	1000 V
Temperature:	UR-AWM	up to +105°C
	UL/C(UL)/CSA AWM	up to +90°C
	static	-25°C
Burning Characteristics:	UL / c(UL) FT4	
Color code:	black #d conductors with green/yellow ground	

CONSTRUCTION:

Conductor:	Class 5 tinned copper stranding
Insulation:	specialty formulated PVC/nylon
Screen:	Aluminum mylar aluminum tape and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

OUTSTANDING FEATURES:

- ▶ Oil resistant meeting Oil Res 1
- ▶ Sun Res and Direct Burial approved
- ▶ Reduced OD for easier installation
- ▶ Tinned copper class 5 stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTTC & UR AWM
- ▶ c(UL) CIC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
		inch	mm		75°C	90°C	230V	460V	575V
8611804	18/4c	0.354	9.0	75		14	1	2	3
8611604	16/4c	0.382	9.7	91		18	2	3	5
8611404	14/4c	0.417	10.6	120	20	25	5	10	15
8611204	12/4c	0.472	12.0	177	25	30	7 1/2	15	20
8611004	10/4c	0.602	15.3	278	35	40	10	20	30
8610804	8/4c	0.764	19.4	430	50	55	15	30	40
8610604	6/4c	0.941	23.9	633	65	75	20	40	50
8610404	4/4c	1.118	28.4	916	85	95	25	50	60
8610204	2/4c	1.287	32.7	1283	115	130	40	75	100

P/N	EMC-2 grounding connector			EMC-4 grounding connector		
	NPT	PG	Metric	NPT	PG	Metric
8611804	EN2-1/2	EP2-13	EM2-20	EN4-1/2C	EP4-13	EM4-20
8611604	EN2-1/2	EP2-13	EM2-20	EN4-1/2C	EP4-13	EM4-20
8611404	EN2-1/2	EP2-13	EM2-20	EN4-1/2C	EP4-13	EM4-20
8611204	EN2-1/2	EP2-16	EM2-25	EN4-1/2C	EP4-16	EM4-20
8611004	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
8610804	EN2-1	EP2-29	EM2-32	EN4-1	EP4-29	EM4-32
8610604	EN2-1	EP2-36	EM2-40	EN4-1 1/4	EP4-36	EM4-40
8610404		EP2-36	EM2-40	EN4-1 1/4	EP4-36	EM4-40
8610204		EP2-42	EM2-50	EN4-1 1/2	EP4-42	EM4-50

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on no more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))
 * Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250.

VFD XLPE TR: XLPE insulated, oil resistant and flexible VFD cable

VFD XLPE TR has XLPE insulation for improved capacitance for longer installations and is extremely flexible and oil resistant. It is designed to perform in VFD applications where increases in voltage can occur, such as spikes in harmonics, in-rush current and wave reflection. VFD XLPE TR has a foil and tinned copper braid shield for 100% protection against EMI and RFI.



(UL) TC-ER 90C DRY/WET 600V/1000V



TECHNICAL DATA:

Voltage:	UL/c(UL):	600 V
	CSA AWM:	1000 V
	UL WTTCC:	1000 V
Temperature:	UL/c(UL)/	
	CSA AWM	up to +90°C
	static	-40°C/105°C
Burning		
Characteristics:	UL / C(UL) FT4	
Color code:	black #d conductors with	
	green/yellow ground	

CONSTRUCTION:

Conductor:	Class K tinned copper stranding
Insulation:	specially formulated XLPE
Screen:	Aluminum mylar aluminum tape and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ Oil resistant meeting Oil Res 1 & 2
- ▶ Sun Res and Direct Burial approved
- ▶ Tinned copper class K stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTCC & UL Flexible Motor Supply Cable
- ▶ c(UL) CIC-TC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
		inch	mm		75°C	90°C	230V	460V	575V
35681604	16/4c	0.499	12.7	125		18	2	5	5
35681404	14/4c	0.535	13.6	159	20	25	5	10	15
35681204	12/4c	0.592	15.0	214	25	30	7 1/2	15	20
35681004	10/4c	0.683	17.3	294	35	40	10	20	30
35680804	8/4c	0.893	22.7	556	50	55	15	30	40
35680604	6/4c	1.018	25.9	736	65	75	20	40	50
35680404	4/4c	1.161	29.5	1079	85	95	25	50	60
35680204	2/4c	1.342	34.1	1550	115	130	40	75	100

P/N	EMC-2 EMC connector			EMC-4 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
35681604		EP2-16	EM2-25	EN4-1/2C	EP4-16	EM4-20
35681404	EN2-3/4	EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681204	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681004	EN2-3/4	EP2-21	EM2-25C	EN4-1	EP4-29	EM4-32
35680804	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
35680604	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680404		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680204		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on not more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))
 * Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250.

VFD Combo DS: Flexible VFD cable with 1 or 2 pairs for brake

Servo VFD Combo DS is a flexible VFD cable with 1 or 2 pairs for a brake or temperature sensor when they are part of the motor. The pairs are individually shielded with a drain wire. Servo VFD Combo DS also has a foil and tinned copper braid shield for 100% protection against EMI and RFI.



TECHNICAL DATA:

Voltage:	UL/c(UL):	600 V
	UR/CSA AWM:	1000 V
	UL WTTTC:	1000 V
Temperature:	UR-AWM	up to +105°C
	UL/c(UL)/	
	CSA AWM	up to +90°C
	static	-25°C
Burning		
Characteristics:	UL / c(UL) FT4	
Color code:	black #d conductors with green/yellow ground pairs: numbered 5/6 & 7/8	

CONSTRUCTION:

Conductor:	Class 5 tinned copper stranding
Insulation:	specialy formulated PVC/nylon
Screen:	Aluminum mylar aluminum tape and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

OUTSTANDING FEATURES:

- ▶ Shielded pair(s) for a brake or temperature sensor all in one cable
- ▶ Oil resistant meeting Oil Res 1
- ▶ Sun Res and Direct Burial approved
- ▶ Tinned copper class 5 stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTTC & UR AWM
- ▶ c(UL) CIC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	Pair	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°C	90°C	230V	460V	575V
8531604	16/4c	14/1pr	0.516	13.1	174		18		3	3
8531464	14/4c	18/2pr	0.693	17.6	262	20	25	3	7 1/2	10
8531414	14/4c	18/1pr	0.504	12.8	170	20	25	5	10	10
8531404	14/4c	14/1pr	0.555	14.1	207	20	25	5	10	10
8531264	12/4c	18/2pr	0.724	18.4	300	25	30	5	10	10
8531214	12/4c	18/1pr	0.563	14.3	224	25	30	5	10	15
8531204	12/4c	14/1pr	0.610	15.5	269	25	30	5	10	15
8531064	10/4c	18/2pr	0.756	19.2	371	35	40	7 1/2	15	20
8531004	10/4c	14/1pr	0.689	17.5	344	35	40	7 1/2	15	20
8530804	8/4c	14/1pr	0.878	22.3	520	50	55	10	25	30

P/N	EMC-2 EMC connector			EMC-4 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
8531604	EN2-3/4	EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
8531464	EN2-3/4	EP2-21	EM2-32C	EN4-1	EP4-29	EM4-32
8531414		EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
8531404	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
8531264	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
8531214	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
8531204	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
8531064	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
8531004	EN2-3/4	EP2-21	EM2-25C	EN4-1	EP4-29	EM4-32
8530804	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on three current carrying conductors plus pairs in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250.

Other dimensions available upon request.

VFD Combo XLPE: XLPE insulation plus shielded pair for brake

VFD Combo XLPE has XLPE insulation for improved capacitance for longer installations. It also has a shielded pair for temperature sensor or brake. VFD Combo XLPE is flexible and very oil resistant and has an overall foil and braid shield for 100% protection against EMI and RFI.



TECHNICAL DATA:

Voltage: UL/c(UL): 600 V
 UR/CSA AWM: 1000 V
 UL WTTTC: 1000 V

Temperature: UL/c(UL)/CSA AWM up to +90°C static -40°C/105°C

Burning Characteristics: UL / c(UL) FT4

Color code: black #d conductors with green/yellow ground

CONSTRUCTION:

Conductor: Class K tinned copper stranding
 Insulation: specially formulated XLPE
 Screen: Aluminum mylar aluminum tape and tinned copper braiding (85% coverage)
 Jacket: special sunlight and oil resistant black PVC

OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ Shielded pair for temperature sensor or brake
- ▶ Oil resistant meeting Oil Res 1 & 2
- ▶ Sun Res and Direct Burial approved
- ▶ UL TC-ER, UL MTW, UL WTTTC & UL Flexible Motor Supply Cable
- ▶ c(UL) CIC-TC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	Pair	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°C	90°C	230V	460V	575V
35691614	16/4c	18/1pr	0.573	14.6	144		18		3	3
35691414	14/4c	18/1pr	0.616	15.6	175	20	25	5	10	10
35691404	14/4c	14/1pr	0.628	16.0	213	20	25	5	10	10
35691214	12/4c	18/1pr	0.654	16.6	231	25	30	5	10	15
35691204	12/4c	14/1pr	0.667	16.9	277	25	30	5	10	15
35691004	10/4c	14/1pr	0.736	18.7	354	35	40	7 1/2	15	20
35690804	8/4c	14/1pr	0.960	24.4	536	50	55	10	25	30
35690604	6/4c	14/1pr	1.030	26.2	726	65	75	15	30	40
35690404	4/4c	14/1pr	1.140	29.0	1011	85	95	20	40	50
35690204	2/4c	14/1pr	1.280	32.5	1401	115	130	30	60	75

P/N	EMC-2 EMC connector			EMC-4 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
35691614	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691414	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691404	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691214	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691204	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691004	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
35690804	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35690604		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35690404		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35690204		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on not more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250.

VFD Dual TR: Rugged, oil resistant and flexible VFD cable

VFD Dual TR is a flexible VFD cable with an inner jacket for more rugged applications. The inner jacket also helps impede capacitive attraction between the shield and conductors. VFD Dual TR has a foil and tinned copper braid shield for 100% protection against EMI and RFI.



TECHNICAL DATA:

Voltage:	UL/c(UL): 1000 V
	UR/CSA AWM: 1000 V
	UL WTTC:
Temperature:	UR-AWM up to +105°C
	UL/C(UL)/CSA AWM up to +90°C
	static -25°C
Burning Characteristics:	UL / c(UL) FT4
Color code:	black #d conductors with green/yellow ground

CONSTRUCTION:

Conductor:	Class 5 tinned copper stranding
Insulation:	specialty formulated PVC/nylon
Screen:	Aluminum mylar aluminum tape and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

OUTSTANDING FEATURES:

- ▶ Oil resistant meeting Oil Res 1
- ▶ Sun Res and Direct Burial approved
- ▶ Inner jacket for rugged applications
- ▶ Tinned copper class 5 stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTC & UR AWM
- ▶ c(UL) CIC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
		inch	mm		75°C	90°C	230V	460V	575V
8621804	18/4c	0.390	9.9	95		14	1	3	3
8621604	16/4c	0.417	10.6	114		18	2	5	5
8621404	14/4c	0.461	11.7	155	20	25	5	10	15
8621204	12/4c	0.508	12.9	196	25	30	7 1/2	15	20
8621004	10/4c	0.677	17.2	330	35	40	10	20	30
8620804	8/4c	0.874	22.2	519	50	55	15	30	40
8620604	6/4c	1.035	26.3	731	65	75	20	40	50
8620404	4/4c	1.213	30.8	1027	85	95	25	50	60
8620204	2/4c	1.382	35.1	1408	115	130	40	75	100

P/N	EMC-2 grounding connector			EMC-4 grounding connector		
	NPT	PG	Metric	NPT	PG	Metric
8621804	EN2-1/2	EP2-13	EM2-20	EN4-1/2C	EP4-13	EM4-20
8621604	EN2-1/2	EP2-13	EM2-20	EN4-1/2C	EP4-13	EM4-20
8621404	EN2-1/2	EP2-16	EM2-25	EN4-1/2	EP4-16	EM4-20
8621204		EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
8621004	EN2-3/4	EP2-21	EM2-25C	EN4-1	EP4-29	EM4-32
8620804	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
8620604		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
8620404		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50
8620204		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on no more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250.

VFD Lean Auto TR: Continuous flex and oil resistant VFD cable



TECHNICAL DATA:

Voltage:	UL/c(UL): 600 V
	UR/CSA AWM: 1000 V
	UL WTTTC: 1000 V
Temperature:	UR-AWM up to +105°C
	UL/C(UL)/CSA AWM static up to +90°C
	static -25°C
Burning Characteristics:	UL / c(UL) FT4
Color code:	black #’d conductors with green/yellow ground

CONSTRUCTION:

Conductor:	Class 6 tinned copper stranding
Insulation:	specially formulated PVC/nylon
Screen:	Aluminum mylar aluminum tape and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

OUTSTANDING FEATURES:

- ▶ Oil resistant meeting Oil Res 1
- ▶ Sun Res and Direct Burial approved
- ▶ Extra fine stranding for continuous flex applications
- ▶ UL TC-ER, UL MTW, UL WTTTC & UR AWM
- ▶ c(UL) CIC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
		inch	mm		75°C	90°C	230V	460V	575V
8721604	16/4c	0.382	9.7	91		18	2	3	5
8721404	14/4c	0.417	10.6	120	20	25	5	10	15
8721204	12/4c	0.472	12.0	177	25	30	7 1/2	15	20
8721004	10/4c	0.602	15.3	278	35	40	10	20	30
8720804	8/4c	0.764	19.4	430	50	55	15	30	40
8720604	6/4c	0.941	23.9	633	65	75	20	40	50
8720404	4/4c	1.118	28.4	916	85	95	25	50	60
8720204	2/4c	1.287	32.7	1283	115	130	40	75	100

VFD Symmetrical XLPE TR: Flexible VFD cable with 3 symmetrical grounds



TECHNICAL DATA:

Voltage:	UL/c(UL): 600 V
	UR/CSA AWM: 1000 V
	UL WTTTC: 1000 V
Temperature:	UL/C(UL)/CSA AWM static up to +105°C
	static -40 °C
Burning Characteristics:	UL / c(UL) FT4
Color code:	black #’d conductors with green/yellow ground

CONSTRUCTION:

Conductor:	Class K tinned copper stranding
Insulation:	specially formulated PVC/nylon
Screen:	Aluminum mylar aluminum tape and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ Oil resistant meeting Oil Res 1 & 2
- ▶ 3 symmetrical grounds for CMC
- ▶ Tinned Class K stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTTC and UL Flexible Motor Supply Cable
- ▶ c(UL) CIC-TC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	Ground	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°C	90°C	230V	460V	575V
35681403	14/3c	3 x 18	0.501	12.7	170		25	5	10	15
35681203	12/3c	3 x 16	0.570	14.5	230	25	30	7 1/2	15	20
35681003	10/3c	3 x 14	0.642	16.3	312	35	40	10	20	30
35680803	8/3c	3 x 14	0.811	20.6	465	50	55	15	30	40
35680603	6/3c	3 x 12	0.954	24.2	674	65	75	20	40	50
35680403	4/3c	3 x 12	1.062	27.0	877	85	95	25	50	60
35680203	2/3c	3 x 12	1.226	31.1	1266	115	130	40	75	100

VFD XLPE 2KV TR: Shielded VFD cable rated for 2 KV with 3 symmetrical grounds

VFD XLPE 2KV TR has an XLPE insulation for improved capacitance for longer installations. It has 3-symmetrical grounds to perform in VFD applications where increases in voltage such as Common Mode Current (CMC) can occur. VFD XLPE 2KV TR has a copper tape shield for 100% protection against EMI and RFI.



TECHNICAL DATA:

Voltage: UL: 2000V
 Temperature: UL: up to +90°C
 static -25°C
 Burning Characteristics: UL FT4
 Color code: black #'d conductors with green/yellow ground

CONSTRUCTION:

Conductor: Class B bare copper stranding
 Insulation: specially formulated XLPE
 Screen: 5 mil copper tape with 50% overlap
 Jacket: special sunlight and oil resistant black PVC

OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ 3 symmetrical grounds for better common mode current flow
- ▶ Sun Res and Direct Burial approved
- ▶ Copper tape shield (50% overlap) for premium EMI & RFI protection
- ▶ UL TC-ER
- ▶ RoHS

P/N	AWG/C	Ground	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°C	90°C	230V	460V	575V
8690203	1/3c	3 x 8	1.266	32.2	1465	130	150	40	75	100
8691103	1/0-3c	3 x 6	1.384	35.2	1822	150	170	50	100	125
8692103	2/0-3c	3 x 6	1.476	37.5	2130	175	195	60	125	150
8693103	3/0-3c	3 x 5	1.582	40.2	2650	200	225	60	150	150
8694103	4/0-3c	3 x 4	1.800	45.7	3251	230	260	75	150	200
8692513	250-3c	3 x 4	1.835	46.6	3720	255	290	75	150	200
8693503	350-3c	3 x 2	2.130	54.1	5025	310	350	100	200	250
8695003	500-3c	3 x 1	2.402	61.0	6805	380	430	125	250	350

P/N	EMC-2 EMC connector			EMC-2 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
08690103		EP2-42	EP2-50C	EN4-1 1/2	EP4-42	EP4-50
08691103		EP2-42	EP2-50C	EN4-1 1/2	EP4-42	EP4-50
08692103		EP2-48	EP2-63	EN4-2	EP4-48	EP4-63
08693103		EP2-48	EP2-63	EN4-2	EP4-48	EP4-63
08694103						EP4-63C
08692513						EP4-63C
08693503						
08695003						

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on not more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250.

Cord Grips available. See back page for more information.



VFD Termination Kits are used to ground the shield of VFD cables to a metal enclosure and motor housing. It is an effective way to remove noise associated with VFD motors and drives. Improve the effectiveness by also using a SAB EMC grounding gland where the cable enters the enclosure and motor housing.



Installation Prep Photo

Kit P/N	Kit Components	Quantity
VFD GRD KIT 14-1	1/4" flat Tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 1ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 7"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs
VFD GRD KIT 1-4/0	3/4" flat Tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 2ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 7"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs
VFD GRD KIT 250-500	1" flat Tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 2ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 10"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs



Attach to Enclosure

Bolt assembly

brass bolt 1/4"-20 x 1-1/4"	2 pcs
brass nut 1/4"-20	2 pcs
bronze locking washer 1/4"-20	2 pcs
brass washer 1/4"-20 x 9/16" OD	2 pcs
brass washer 1/4"-20 x 1 1/4" OD	2 pcs

EMC-2: EMC grounding gland, Metric PG & NPT Thread

EMC-2 is a nickel plated brass strain relief with integral grounding springs in the gland. It has an IP 68 protection class for excellent protection against dust and water spray. EMC-2 comes in metric, PG and NPT thread.



Technical Data:

Material	Brass, Nickel Plated
Contact Spring	Special Copper Alloy
Clamping Insert	Polyamide 6 V2
Seal	Chloroprene (CR)
O-Ring	NBR
Protection Class	IP 68 - 5 Bar
Temperature Range	-20°C to +100°C permanent -40°C to +150°C intermittent
Flammability	V2 (according to UL 94)

P/N	Thread Size	Clamping Range ϕ (min-max)	Shield Diameter (ϕ min)	Wrenching		Thread Diameter (TD) mm	Thread Length (TL) mm	Height (H) mm		
				Flats Cap (SW1) inches	mm					
NPT										
EN2-3/8	NPT 3/8	.196 - .394	5.0 - 10.0	0.157	4.0	0.787	20.0	17.0	11.5	40.5
EN2-1/2	NPT 1/2	.236 - .472	6.0 - 12.0	0.196	5.0	0.866	22.0	21.0	13.0	38.3
EN2-3/4	NPT 3/4	.512 - .709	13.0 - 18.0	0.433	11.0	1.181	30.0	26.0	13.0	47.4
EN2-1	NPT 1	.709 - .984	18.0 - 25.0	0.629	16.0	1.574	40.0	33.0	13.0	55.2
PG										
EP2-7	PG 7	.118 - .256	3.0 - 6.5	0.098	2.5	0.551	14.0	12.5	6.0	21.8
EP2-9	PG 9	.157 - .315	4.0 - 8.0	0.118	3.0	0.669	17.0	15.2	6.0	22.6
EP2-11	PG 11	.197 - .394	5.0 - 10.0	0.157	4.0	0.787	20.0	18.6	6.0	25.3
EP2-13	PG 13.5	.236 - .473	6.0 - 12.0	0.197	5.0	0.866	22.0	20.4	6.5	24.1
EP2-16	PG 16	.394 - .551	10.0 - 14.0	0.335	8.5	0.945	24.0	22.5	6.5	27.5
EP2-21	PG 21	.512 - .709	13.0 - 18.0	0.433	11.0	1.181	30.0	28.3	7.2	31.2
EP2-29	PG 29	.709 - .984	18.0 - 25.0	0.630	16.0	1.575	40.0	37.0	8.0	39.3
EP2-36	PG 36	.866 - 1.260	22.0 - 32.0	0.787	20.0	1.969	50.0	47.0	9.0	47.2
EP2-42	PG 42	1.181 - 1.497	30.0 - 38.0	1.102	28.0	2.283	58.0	54.0	12.0	47.7
EP2-48	PG 48	1.339 - 1.732	34.0 - 44.0	1.220	31.0	2.520	64.0	59.3	14.0	52.0
Metric										
EM2-12	M12X1.5	.118 - .256	3.0 - 6.5	0.098	2.5	0.551	14.0	12.0	6.0	22.0
EM2-16	M16X1.5	.158 - .315	4.0 - 8.0	0.118	3.0	0.669	17.0	16.0	7.0	23.0
EM2-16C	M16X1.5	.177 - .394	4.5 - 10.0	0.138	3.5	0.787	20.0	16.0	6.5	24.0
EM2-20	M20X1.5	.236 - .472	6.0 - 12.0	0.177	4.5	0.866	22.0	20.0	8.0	25.0
EM2-25	M25X1.5	.394 - .551	10.0 - 14.0	0.335	8.5	0.945	24.0	25.0	8.0	28.0
EM2-25C	M25X1.5	.472 - .709	12.0 - 18.0	0.413	10.5	1.181	30.0	25.0	8.0	37.0
EM2-32	M32X1.5	.512 - .709	13.0 - 18.0	0.433	11.0	1.181	30.0	32.0	9.0	33.0
EM2-32C	M32X1.5	.669 - .945	17.0 - 24.0	0.551	14.0	1.575	40.0	32.0	8.0	35.0
EM2-40	M40X1.5	.709 - .984	18.0 - 25.0	0.630	16.0	1.575	40.0	40.0	9.0	39.0
EM2-40C	M40X1.5	.866 - 1.261	22.0 - 32.0	0.787	20.0	1.969	50.0	40.0	8.0	42.0
EM2-50	M50X1.5	.866 - 1.261	22.0 - 32.0	0.787	20.0	1.969	50.0	50.0	9.0	47.0
EM2-50C	M50X1.5	1.181 - 1.496	30.0 - 38.0	1.024	26.0	2.244	57.0	50.0	9.0	49.0
EM2-63	M63X1.5	1.340 - 1.734	34.0 - 44.0	1.220	31.0	2.520	64.0	63.0	14.0	53.0

Additional thread sizes and colors available upon request

EMC-4: EMC grounding glandwith vibration proof grounding springs

Technical Data:	
Material	Brass, Nickel Plated
Contact Spring	Special Copper Alloy
Clamping Insert	Polyamide 6 V2
Seal	Chloroprene (CR)
O-Ring	NBR
Protection Class	IP 68 - 5 Bar
Temperature Range	-20°C to +100°C permanent -40°C to +150°C intermittent
Flammability	V2 (according to UL 94)

EMC-4 is a nickel plated brass strain relief with integral grounding springs in the gland that will allow the cable to move without damage to the shield. A cable can be installed from either direction as well.

It has an IP 68 protection class for excellent protection against dust and water spray.



P/N	Thread Size	Clamping Range Ø (min - max)	Shield Diameter (Ø min - max)	Wrenching Flats Cap (SW1)		Thread Diameter (TD) mm	Thread Length (TL) mm	Height (H) mm		
				inches	mm					
NPT										
EN4-1/4	NPT 1/4	.118 - .256	3.0 - 6.5	.079 - .197	2.0 - 5.0	0.551	14.0	13.7	6.0	28.0
EN4-3/8	NPT 3/8	.197 - .394	5.0 - 10.0	.138 - .315	3.5 - 8.0	0.787	20.0	17.1	6.0	34.0
EN4-1/2C	NPT 1/2	.236 - .472	6.0 - 12.0	.177 - .394	4.5 - 10.0	0.866	22.0	21.3	8.0	32.0
EN4-1/2	NPT 1/2	.295 - .551	7.5 - 14.0	.217 - .453	5.5 - 11.5	0.945	24.0	21.3	8.0	38.0
EN4-3/4	NPT 3/4	.394 - .709	10.0 - 18.0	.276 - .551	7.0 - 14.0	1.181	30.0	26.7	8.0	42.0
EN4-1	NPT 1	.630 - .984	16.0 - 25.0	.472 - .787	12.0 - 20.0	1.575	40.0	33.4	9.0	50.0
EN4-1 1/4	NPT 1 1/4	.866 - 1.260	22.0 - 32.0	.709 - 1.063	18.0 - 27.0	1.969	50.0	42.2	9.0	57.0
EN4-1 1/2	NPT 1 1/2	1.181 - 1.496	30.0 - 38.0	1.024 - 1.339	26.0 - 34.0	2.283	58.0	48.3	9.0	67.0
EN4-2	NPT 2	1.339 - 1.732	34.0 - 44.0	1.181 - 1.575	30.0 - 40.0	2.519	68.0	60.3	14.0	69.0
Metric										
EM4-12	M12X1.5	.118 - .256	3.0 - 6.5	.079 - .197	2.0 - 5.0	0.551	14.0	12.0	6.0	28.0
EM4-16	M16X1.5	.197 - .394	5.0 - 10.0	.138 - .315	3.5 - 8.0	0.787	20.0	16.0	6.0	34.0
EM4-20C	M20X1.5	.236 - .472	6.0 - 12.0	.177 - .394	4.5 - 10.0	0.866	22.0	20.0	6.0	32.0
EM4-20	M20X1.5	.295 - .551	7.5 - 14.0	.217 - .453	5.5 - 11.5	0.945	24.0	20.0	8.0	38.0
EM4-25	M25X1.5	.394 - .709	10.0 - 18.0	.276 - .551	7.0 - 14.0	1.181	30.0	25.0	8.0	42.0
EM4-32	M32X1.5	.630 - .984	16.0 - 25.0	.472 - .787	12.0 - 20.0	1.575	40.0	32.0	9.0	50.0
EM4-40	M40X1.5	.866 - 1.260	22.0 - 32.0	.709 - 1.063	18.0 - 27.0	1.969	50.0	40.0	9.0	57.0
EM4-50	M50X1.5	1.181 - 1.496	30.0 - 38.0	1.024 - 1.339	26.0 - 34.0	2.283	58.0	50.0	9.0	67.0
EM4-63	M63X1.5	1.339 - 1.732	34.0 - 44.0	1.181 - 1.575	30.0 - 40.0	2.520	64.0	63.0	14.0	69.0
EM4-63C	M63X1.5	1.457 - 2.087	37.0 - 53.0	1.299 - 1.929	33.0 - 49.0	2.953	75.0	63.0	10.0	72.0
PG										
EP4-7	PG 7	.118 - .256	3.0 - 6.5	.079 - .197	2.0 - 5.0	0.551	14.0	12.5	6.0	22.0
EP4-9	PG 9	.157 - .315	4.0 - 8.0	.118 - .157	3.0 - 4.0	0.669	17.0	15.2	6.0	23.0
EP4-11	PG 11	.197 - .394	5.0 - 10.0	.138 - .315	3.5 - 8.0	0.787	20.0	18.6	6.0	28.0
EP4-13	PG 13.5	.236 - .472	6.0 - 12.0	.177 - .394	4.5 - 10.0	0.866	22.0	20.4	6.0	26.0
EP4-16	PG 16	.295 - .551	7.5 - 14.0	.217 - .453	5.5 - 11.5	0.945	24.0	22.5	8.0	30.0
EP4-21	PG 21	.394 - .709	10.0 - 18.0	.276 - .551	7.0 - 14.0	1.181	30.0	28.3	8.0	34.0
EP4-29	PG 29	.630 - .984	16.0 - 25.0	.472 - .787	12.0 - 20.0	1.575	40.0	37.0	9.0	41.0
EP4-36	PG 36	.866 - 1.260	22.0 - 32.0	.709 - 1.063	18.0 - 27.0	1.969	50.0	47.0	9.0	48.0
EP4-42	PG 42	1.181 - 1.496	30.0 - 38.0	1.024 - 1.339	26.0 - 34.0	2.283	58.0	54.0	9.0	49.0
EP4-48	PG 48	1.339 - 1.732	34.0 - 44.0	1.181 - 1.575	30.0 - 40.0	2.520	64.0	59.3	14.0	52.0

Technical Information

VFD Lean TR



VFD XLPE TR



Part Number	Capacitance (pF/ft)		Impedance (Ohms)		Cord Grips	
	Mutual	Ground*	Mutual	Ground*	EMC-2	EMC-4
08611804	10.7	67.7	154	42	EP2-13	EP4-13
08611604	11.6	70.4	148	42	EP2-13	EP4-13
08611404	15.2	88.7	129	37	EP2-13	EP4-13
08611204	18.3	103.9	112	32	EP2-16	EP4-16
08611004	16.2	96.3	121	35	EP2-21	EP4-21
08610804	14.6	100.0	126	34	EP2-29	EP4-29
08610604	17.4	113.4	113	31	EP2-36	EP4-36
08610404	14.3	96.0	124	34	EP2-36	EP4-36
08610204	20.7	146.0	107	29	EP2-42	EP4-42
35681604	15.0	27.0	104	57	EP2-16	EP4-21
35691404	18.0	32.0	86	48	EP2-21	EP4-21
35701204	20.0	35.0	79	43	EP2-21	EP4-21
35711004	24.0	42.0	66	36	EP2-21	EP4-29
35720804	24.0	42.0	66	36	EP2-29	EP4-29
35730604	26.0	47.0	59	32	EP2-36	EP4-36
35740404	29.0	53.0	53	29	EP2-36	EP4-36
35750204	33.0	60.0	46	25	EP2-42	EP4-42

*for VFD Lean TR, value is conductor to screen

Corresponding Cord Grips

VFD Lean Auto TR



VFD Symmetrical XLPE TR



Part Number	EMC-2 grounding connector			EMC-4 grounding connector		
	NPT	PG	Metric	NPT	PG	Metric
8721604	EN2-1/2	EP2-13	EM2-20	EN4-1/2	EP4-13	EM4-20
8721404	EN2-1/2	EP2-13	EM2-20	EN4-1/2	EP4-13	EM4-20
8721204	EN2-1/2	EP2-16	EM2-25	EN4-1/2C	EP4-16	EM4-20
8721004	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
8720804	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
8720604	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
8720404		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
8720204		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50
35681403		EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681203	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681003	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35680803	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
35680603	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680403		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680203		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50