

MODELS: FR-A800

TITLE: Applicable cables of FR-A800 series in multiple ratings.

Applicable cables are shown below when you use FR-A800 series in multiple ratings.

1. Standard Model

(1) HIV wire etc

Voltage	Inverter model (ND rating) FR-A820-[] FR-A840-[]	Input (R,S,T) Recommended cable gauge (mm ²) *1							
		Power factor improving (AC or DC) reactor							
		Without				With			
		SLD	LD	ND	HD	SLD	LD	ND	HD
200V	0.4K(00046)	2	2	2	2	2	2	2	2
	0.75K(00077)	2	2	2	2	2	2	2	2
	1.5K(00108)	2	2	2	2	2	2	2	2
	2.2K(00167)	3.5	3.5	2	2	3.5	3.5	2	2
	3.7K(00250)	5.5	5.5	3.5	2	5.5	5.5	3.5	2
	5.5K(00340)	14	8	5.5	3.5	8	5.5	5.5	3.5
	7.5K(00490)	14	14	14	5.5	14	14	14	5.5
	11K(00630)	22	22	14	14	22	22	14	14
	15K(00770)	38	38	22	14	22	22	22	14
	18.5K(00930)	38	38	38	22	38	38	22	22
	22K(01250)	60	60	38	38	60	60	38	22
	30K(01540)	80	80	60	38	80	60	60	38
	37K(01870)	100	100	80	60	100	100	60	60
	45K(02330)	100	100	100	80	100	100	100	60
	55K(03160)	-	-	100	100	125	125	100	100
	75K(03800)	-	-	-	-	150	150	125	100
90K(04750)	-	-	-	-	2x100	150	150	125	
400V	0.4K(00023)	2	2	2	2	2	2	2	2
	0.75K(00038)	2	2	2	2	2	2	2	2
	1.5K(00052)	2	2	2	2	2	2	2	2
	2.2K(00083)	2	2	2	2	2	2	2	2
	3.7K(00126)	2	2	2	2	2	2	2	2
	5.5K(00170)	3.5	3.5	2	2	3.5	3.5	2	2
	7.5K(00250)	5.5	5.5	3.5	2	5.5	5.5	3.5	2
	11K(00310)	8	8	5.5	3.5	5.5	5.5	5.5	3.5
	15K(00380)	14	14	8	5.5	8	8	5.5	5.5
	18.5K(00470)	14	14	14	8	14	14	8	5.5
	22K(00620)	22	22	14	14	22	22	14	8
	30K(00770)	22	22	22	14	22	22	22	14
	37K(00930)	38	38	22	22	38	38	22	22
	45K(01160)	60	60	38	22	60	60	38	22
	55K(01800)	-	-	60	38	60	60	60	38
	75K(02160)	-	-	-	-	80	60	60	60
	90K(02600)	-	-	-	-	100	80	60	60
	110K(03250)	-	-	-	-	125	100	80	60
	132K(03610)	-	-	-	-	150	125	100	80
	160K(04320)	-	-	-	-	2x100	150	125	100
185K(0410)	-	-	-	-	2x100	2x100	150	125	
220K(05470)	-	-	-	-	2x125	2x100	2x100	150	
250K(06100)	-	-	-	-	2x150	2x125	2x100	2x100	
280K(06830)	-	-	-	-	2x200	2x150	2x125	2x100	

MITSUBISHI ELECTRIC
INVERTER TECHNICAL NEWS

NAGOYA WORKS

File No. : MF-X-121B
Date of issue: 2015-02-18
Modified date: 2016-01-20

MODELS: FR-A800

Voltage	Inverter model (ND rating) FR-A820-[] FR-A840-[]	Output (U,V,W) Recommended cable gauge (mm ²) *1			
		SLD	LD	ND	HD
200V	0.4K(00046)	2	2	2	2
	0.75K(00077)	2	2	2	2
	1.5K(00108)	2	2	2	2
	2.2K(00167)	3.5	3.5	2	2
	3.7K(00250)	5.5	5.5	3.5	2
	5.5K(00340)	8	5.5	5.5	3.5
	7.5K(00490)	14	14	8	5.5
	11K(00630)	22	22	14	8
	15K(00770)	22	22	22	14
	18.5K(00930)	38	38	22	22
	22K(01250)	60	60	38	22
	30K(01540)	80	60	60	38
	37K(01870)	100	100	60	60
	45K(02330)	100	100	100	60
	55K(03160)	125	125	100	100
	75K(03800)	150	150	125	100
90K(04750)	2×100	150	150	125	
400V	0.4K(00023)	2	2	2	2
	0.75K(00038)	2	2	2	2
	1.5K(00052)	2	2	2	2
	2.2K(00083)	2	2	2	2
	3.7K(00126)	2	2	2	2
	5.5K(00170)	3.5	3.5	2	2
	7.5K(00250)	5.5	5.5	3.5	2
	11K(00310)	5.5	5.5	5.5	3.5
	15K(00380)	8	8	5.5	5.5
	18.5K(00470)	14	14	8	5.5
	22K(00620)	22	22	14	8
	30K(00770)	22	22	22	14
	37K(00930)	38	38	22	22
	45K(01160)	60	60	38	22
	55K(01800)	60	60	60	38
	75K(02160)	80	60	60	60
	90K(02600)	100	80	60	60
	110K(03250)	125	100	80	60
	132K(03610)	150	125	100	80
	160K(04320)	2×100	150	125	100
185K(0410)	2×100	2×100	150	125	
220K(05470)	2×125	2×100	2×100	150	
250K(06100)	2×150	2×125	2×100	2×100	
280K(06830)	2×200	2×150	2×125	2×100	

MITSUBISHI ELECTRIC INVERTER TECHNICAL NEWS

NAGOYA WORKS

File No. : MF-X-121B

Date of issue: 2015-02-18

Modified date: 2016-01-20

MODELS: FR-A800

(2)AWG/MCM

Voltage	Inverter model (ND rating) FR-A820-[] FR-A840-[]	Input (R,S,T) Recommended cable gauge (AWG) *2							
		Power factor improving (AC or DC) reactor							
		Without				With			
		SLD	LD	ND	HD	SLD	LD	ND	HD
200V	0.4K(00046)	14	14	14	14	14	14	14	14
	0.75K(00077)	14	14	14	14	14	14	14	14
	1.5K(0010/8)	14	14	14	14	14	14	14	14
	2.2K(00167)	12	12	14	14	12	12	14	14
	3.7K(00250)	10	10	12	14	10	10	12	14
	5.5K(00340)	6	6	10	12	8	10	10	12
	7.5K(00490)	6	6	6	10	6	6	8	10
	11K(00630)	4	4	6	6	4	4	6	8
	15K(00770)	2	2	4	6	4	4	4	6
	18.5K(00930)	2	2	2	4	2	2	4	4
	22K(01250)	1/0	1/0	2	2	1/0	1/0	2	4
	30K(01540)	3/0	3/0	1/0	2	3/0	1/0	1/0	2
	37K(01870)	4/0	4/0	3/0	1/0	4/0	4/0	1/0	1/0
	45K(02330)	4/0	4/0	4/0	3/0	4/0	4/0	4/0	1/0
	55K(03160)	-	-	4/0	4/0	250	250	4/0	4/0
	75K(03800)	-	-	-	-	2x4/0	2x4/0	250	4/0
90K(04750)	-	-	-	-	2x4/0	2x4/0	300	250	
400V	0.4K(00023)	14	14	14	14	14	14	14	14
	0.75K(00038)	14	14	14	14	14	14	14	14
	1.5K(00052)	14	14	14	14	14	14	14	14
	2.2K(00083)	14	14	14	14	14	14	14	14
	3.7K(00126)	12	12	14	14	14	14	14	14
	5.5K(00170)	12	12	12	14	12	12	12	14
	7.5K(00250)	10	10	12	12	10	10	12	12
	11K(00310)	8	8	10	12	10	10	10	12
	15K(00380)	6	6	8	10	8	8	10	10
	18.5K(00470)	6	6	6	8	6	6	8	10
	22K(00620)	4	4	6	6	4	4	6	8
	30K(00770)	4	4	4	6	4	4	4	6
	37K(00930)	1	1	4	4	2	2	4	4
	45K(01160)	1/0	1/0	1	4	1/0	1/0	2	4
	55K(01800)	-	-	1/0	1	1/0	1/0	1/0	2
	75K(02160)	-	-	-	-	3/0	1/0	1/0	1/0
	90K(02600)	-	-	-	-	4/0	3/0	3/0	1/0
	110K(03250)	-	-	-	-	250	4/0	3/0	3/0
	132K(03610)	-	-	-	-	300	250	4/0	3/0
	160K(04320)	-	-	-	-	2x4/0	300	250	4/0
185K(0410)	-	-	-	-	2x4/0	2x4/0	300	250	
220K(05470)	-	-	-	-	2x250	2x4/0	2x4/0	300	
250K(06100)	-	-	-	-	2x300	2x250	2x4/0	2x4/0	
280K(06830)	-	-	-	-	2x350	2x300	2x250	2x4/0	

MITSUBISHI ELECTRIC
INVERTER TECHNICAL NEWS

NAGOYA WORKS

File No. : MF-X-121B
Date of issue: 2015-02-18
Modified date: 2016-01-20

MODELS: FR-A800

Voltage	Inverter model (ND rating) FR-A820-[] FR-A840-[]	Output (U,V,W) Recommended cable gauge (AWG) *2			
		SLD	LD	ND	HD
200V	0.4K(00046)	14	14	14	14
	0.75K(00077)	14	14	14	14
	1.5K(00108)	14	14	14	14
	2.2K(00167)	12	12	14	14
	3.7K(00250)	10	10	12	14
	5.5K(00340)	8	10	10	12
	7.5K(00490)	6	6	8	10
	11K(00630)	4	4	6	8
	15K(00770)	4	4	4	6
	18.5K(00930)	2	2	4	4
	22K(01250)	1/0	1/0	2	4
	30K(01540)	3/0	1/0	1/0	2
	37K(01870)	4/0	4/0	1/0	1/0
	45K(02330)	4/0	4/0	4/0	1/0
	55K(03160)	250	250	4/0	4/0
	75K(03800)	2x4/0	2x4/0	250	4/0
90K(04750)	2x4/0	2x4/0	300	250	
400V	0.4K(00023)	14	14	14	14
	0.75K(00038)	14	14	14	14
	1.5K(00052)	14	14	14	14
	2.2K(00083)	14	14	14	14
	3.7K(00126)	14	14	14	14
	5.5K(00170)	12	12	14	14
	7.5K(00250)	10	10	12	14
	11K(00310)	10	10	10	12
	15K(00380)	8	8	10	10
	18.5K(00470)	6	6	8	10
	22K(00620)	4	4	6	8
	30K(00770)	4	4	4	6
	37K(00930)	2	2	4	4
	45K(01160)	1/0	1/0	2	4
	55K(01800)	1/0	1/0	1/0	2
	75K(02160)	3/0	1/0	1/0	1/0
	90K(02600)	4/0	3/0	3/0	1/0
	110K(03250)	250	4/0	3/0	3/0
	132K(03610)	300	250	4/0	3/0
	160K(04320)	2x4/0	300	250	4/0
185K(0410)	2x4/0	2x4/0	300	250	
220K(05470)	2x250	2x4/0	2x4/0	300	
250K(06100)	2x300	2x250	2x4/0	2x4/0	
280K(06830)	2x350	2x300	2x250	2x4/0	

MODELS: FR-A800

(3) PVC wire etc

Voltage	Inverter model (ND rating) FR-A820-[] FR-A840-[]	Input (R,S,T) Recommended cable gauge (mm ²) *3							
		Power factor improving (AC or DC) reactor							
		Without				With			
		SLD	LD	ND	HD	SLD	LD	ND	HD
200V	0.4K(00046)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	0.75K(00077)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	1.5K(0010/8)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	2.2K(00167)	4	4	2.5	2.5	4	4	2.5	2.5
	3.7K(00250)	6	6	4	2.5	6	6	4	2.5
	5.5K(00340)	16	16	6	4	10	6	6	4
	7.5K(00490)	16	16	16	6	16	16	10	6
	11K(00630)	25	25	16	16	25	25	16	10
	15K(00770)	50	35	25	16	25	25	25	16
	18.5K(00930)	50	35	35	25	50	35	25	25
	22K(01250)	50	50	35	35	50	50	35	25
	30K(01540)	70	70	50	35	70	70	50	35
	37K(01870)	95	95	70	50	95	95	70	50
	45K(02330)	95	95	95	70	95	95	95	70
	55K(03160)	-	-	95	95	-	-	95	95
	75K(03800)	-	-	-	-	-	-	-	95
90K(04750)	-	-	-	-	-	-	-	-	
400V	0.4K(00023)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	0.75K(00038)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	1.5K(00052)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	2.2K(00083)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	3.7K(00126)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	5.5K(00170)	4	4	2.5	2.5	4	4	2.5	2.5
	7.5K(00250)	6	6	4	2.5	6	6	4	2.5
	11K(00310)	10	10	6	4	6	6	6	4
	15K(00380)	16	16	10	6	10	10	6	6
	18.5K(00470)	16	16	16	10	16	16	10	6
	22K(00620)	25	25	16	16	25	25	16	10
	30K(00770)	25	25	25	16	25	25	25	16
	37K(00930)	50	50	25	25	50	50	25	25
	45K(01160)	50	50	50	25	50	50	50	25
	55K(01800)	-	-	50	50	50	50	50	50
	75K(02160)	-	-	-	-	70	50	50	50
	90K(02600)	-	-	-	-	95	70	50	50
	110K(03250)	-	-	-	-	120	95	70	50
	132K(03610)	-	-	-	-	150	120	95	70
	160K(04320)	-	-	-	-	2×95	150	120	95
185K(0410)	-	-	-	-	2×95	2×95	150	120	
220K(05470)	-	-	-	-	2×120	2×95	2×95	150	
250K(06100)	-	-	-	-	2×150	2×120	2×95	2×95	
280K(06830)	-	-	-	-	2×185	2×150	2×120	2×95	

MITSUBISHI ELECTRIC
INVERTER TECHNICAL NEWS

NAGOYA WORKS

File No. : MF-X-121B
Date of issue: 2015-02-18
Modified date: 2016-01-20

MODELS: FR-A800

Voltage	Inverter model (ND rating) FR-A820-[] FR-A840-[]	Output (U,V,W) Recommended cable gauge (mm ²) *2			
		SLD	LD	ND	HD
200V	0.4K(00046)	2.5	2.5	2.5	2.5
	0.75K(00077)	2.5	2.5	2.5	2.5
	1.5K(00108)	2.5	2.5	2.5	2.5
	2.2K(00167)	4	4	2.5	2.5
	3.7K(00250)	6	6	4	2.5
	5.5K(00340)	10	6	6	4
	7.5K(00490)	16	16	10	6
	11K(00630)	25	25	16	10
	15K(00770)	25	25	25	16
	18.5K(00930)	50	35	25	25
	22K(01250)	50	50	35	25
	30K(01540)	70	70	50	35
	37K(01870)	95	95	70	50
	45K(02330)	95	95	95	70
	55K(03160)	-	-	95	95
	75K(03800)	-	-	-	95
90K(04750)	-	-	-	-	
400V	0.4K(00023)	2.5	2.5	2.5	2.5
	0.75K(00038)	2.5	2.5	2.5	2.5
	1.5K(00052)	2.5	2.5	2.5	2.5
	2.2K(00083)	2.5	2.5	2.5	2.5
	3.7K(00126)	2.5	2.5	2.5	2.5
	5.5K(00170)	4	4	2.5	2.5
	7.5K(00250)	6	6	4	2.5
	11K(00310)	6	6	6	4
	15K(00380)	10	10	6	6
	18.5K(00470)	16	16	10	6
	22K(00620)	25	25	16	10
	30K(00770)	25	25	25	16
	37K(00930)	50	50	25	25
	45K(01160)	50	50	50	25
	55K(01800)	50	50	50	50
	75K(02160)	70	50	50	50
	90K(02600)	95	70	50	50
	110K(03250)	120	95	70	50
	132K(03610)	150	120	95	70
	160K(04320)	2x95	150	120	95
185K(0410)	2x95	2x95	150	120	
220K(05470)	2x120	2x95	2x95	150	
250K(06100)	2x150	2x120	2x95	2x95	
280K(06830)	2x185	2x150	2x120	2x95	

MODELS: FR-A800

*1 For FR-A820-03160(55K) or lower and FR-A840-01800(55K) or lower, it is the gauge of a cable with the continuous maximum permissible temperature of 75°C. (HIV cable (600 V grade heat-resistant PVC insulated wire), etc.) It assumes a surrounding air temperature of 50°C or lower and the wiring distance of 20 m or shorter.

For FR-A820-03800(75K) or higher and FR-A840-02160(75K) or higher, it is the gauge of the cable with the continuous maximum permissible temperature of 90°C or higher. (LMFC (heat resistant flexible cross-linked polyethylene insulated cable), etc.) It assumes a surrounding air temperature of 50°C or lower and in-enclosure wiring.

*2 For all the 200 V class capacities and FR-A840-01160(45K) or lower, it is the gauge of a cable with the continuous maximum permissible temperature of 75°C (THHW cable). It assumes a surrounding air temperature of 40°C or lower and the wiring distance of 20 m or shorter. For the FR-A840-01800(55K) or higher, it is the gauge of a cable with the continuous maximum permissible temperature of 90°C (THHN cable). It assumes a surrounding air temperature of 40°C or lower and in-enclosure wiring. (Selection example for use mainly in the United States.)

*3 For the FR-A820-00770(15K) or lower and the FR-A840-01160(45K) or lower, it is the gauge of a cable with the continuous maximum permissible temperature of 70°C (PVC cable). It assumes a surrounding air temperature of 40°C or lower and the wiring distance of 20 m or shorter.
For the FR-A820-00930(18.5K) or higher and the FR-A840-01800(55K) or higher, it is the gauge of a cable with the continuous maximum permissible temperature of 90°C (XLPE cable). It assumes a surrounding air temperature of 40°C or lower and in-enclosure wiring. (Selection example for use mainly in Europe.)

MODELS: FR-A800

2. Converter Separated Type

(1) HIV cable, etc

Voltage	Inverter Model *7 (ND rating) FR-A820-[] FR-A840-[]	Recommended cable gauge (mm2) *4			
		Output (U,V,W)			
		SLD	LD	ND	HD
400V class	315K(07700)	2x200	2x200	2x150	2x125
	355K(08660)	2x250	2x200	2x200	2x150
	400K(09620)	2x250	2x250	2x200	2x200
	450K(10940)	3x200	2x250	2x250	2x200
	500K(12120)	3x200	3x200	2x250	2x250

(2) AWG/MCM

Voltage	Inverter Model *7 (ND rating) FR-A820-[] FR-A840-[]	Recommended cable gauge (mm2) *5			
		Output (U,V,W)			
		SLD	LD	ND	HD
400V class	315K(07700)	2x400	2x350	2x300	2x250
	355K(08660)	2x500	2x400	2x350	2x300
	400K(09620)	2x500	2x500	2x400	2x350
	450K(10940)	3x350	2x500	2x500	2x400
	500K(12120)	3x400	3x350	2x500	2x500

(3) PVC cable, etc.

Voltage	Inverter Model *7 (ND rating) FR-A820-[] FR-A840-[]	Recommended cable gauge (mm2) *6			
		Output (U,V,W)			
		SLD	LD	ND	HD
400V class	315K(07700)	2x185	2x185	2x150	2x120
	355K(08660)	2x240	2x185	2x185	2x150
	400K(09620)	2x240	2x240	2x185	2x185
	450K(10940)	3x185	2x240	2x240	2x185
	500K(12120)	3x185	3x185	2x240	2x240

*4 It is the gauge of the cable with the continuous maximum permissible temperature of 90°C or higher. (LMFC (heat resistant flexible cross-linked polyethylene insulated cable), etc.). It assumes a surrounding air temperature of 50°C or lower and in-enclosure wiring.

*5 It is the gauge of a cable with the continuous maximum permissible temperature of 90°C (THHN cable). It assumes a surrounding air temperature of 40°C or lower and in-enclosure wiring. (Selection example for use mainly in the United States.)

*6 It is the gauge of a cable with the continuous maximum permissible temperature of 90°C (XLPE cable). It assumes a surrounding air temperature of 40°C or lower and in-enclosure wiring. (Selection example for use mainly in Europe.)

*7 Regarding the input (R,S,T) of the FR-A842-315K and above, select by matching to the FR-CC2 converter unit. (refer to the FR-A800 catalogue)