# The Best Choice for Grid **Abnormal Simulation**

Providing clean sine wave AC power, the AFC series allows users to simulate all sorts of utility grid voltage and frequency. The new AFC series features upgraded appearance design and user interface for a more intuitive control. It provides measurements of voltage, current, frequency and power factor. Moreover, the built-in hot key function allows quick memory recall and easy voltage and frequency setting.







# ■ 10" Intuitive Touch Screen Control

Users can easily read or set test parameters.

# Applicable to 100% Unbalanced Load

Capable of delivering power to either three separate single-phase devices like EV Charger or one single three-phase device.

## ■ RS-232 & RS-485 Remote Interfaces

Users can set test parameters for single or multiple AFC series remotely.



# AFC

# series

# **AC Power Source/ Frequency** Converter

#### **Interfaces**





#### **QR** Code





**Product** Info.

**Product** Video



# **Output Power**

10kVA~2000kVA





Providing clean sine wave AC power, the AFC series allows users to simulate all sorts of utility grid voltage and frequency for export product testing or operation of imported equipment. With a brand new appearance design, the new AFC series has not only improved electronic performance but also upgraded its user interface with 7" or 10" touch screen as well as RS-232 and RS-485 for more intuitive control. The AFC series now provides measurements of voltage, current, frequency and power factor. The built-in hot key function allows quick memory recall and easy voltage and frequency setting.

AFC series can simulate standard or abnormal voltage and frequency status. The maximum output power is up to 2000kVA in one unit instead of parallel. The output voltage range is 0-310V, and the output frequency is adjustable between optional 45-65Hz continuously, and optional 45-65Hz, 100Hz / 120Hz / 200Hz / 240Hz / 400Hz. This series provides pure sine wave output, with single and three-phase output models which are suitable for various industries including home appliances, electrical electronics and medical equipment.

### **Best Solution for Voltage and Frequency Conversions**







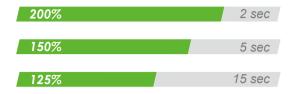
#### Variable Transformer + MG set

AFC series

Control/Operation	Simple with Limited Functions	Intuitive HMI & Touch Screen			
Waveform Simulation	V & Hz Adjustable	Power Disturbance Simulations & Other Programmable Features Available			
Remote Control/ Measurement	Measurement only	Measurement + Remote Control Software			
Reliability	High	High			
Applications	Basic Power Conversion	Basic to Sophisticated Application			

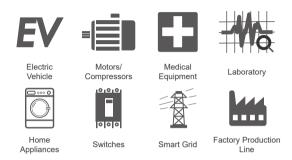
Unlike variable transformers, AFC series offers precise control over voltage, frequency, and power conditions through a userfriendly interface. With lower THD for cleaner waveforms, it ensures more accurate test results, making it ideal for various applications from basic to advanced simulations.

#### Overload Capability (Opt.)



An electric-motor-type UUT (Unit under Test), such as motor, compressor or water pump, generates great activation current when activating. As a result, users need to purchase a power supply with much higher capacity than the UUT itself. AFC series has an optional overload capability that can endure/achieve 200% overload capability, easy to activate products of electric motor type that require high activation current.

#### **Ideal Power Source for Various Industries**



The AFC series AC power source is highly reliable and easy to operate, and it has been widely applied in production line, quality assurance and design verification. The multiple levels of frequency and wide range of output voltage is ideal for applications requiring voltage and frequency coversion.

The unit can also be applied as isolation between DUT and the grid to reduce the interference from each side. These features make the AFC series ideal for home appliance, EMC chamber, motor and electronic industries.

#### Applicable to 100% Unbalanced Load





The AFC series is reliable for testing home appliances, motors, and compressors in production lines or laboratories. It can simulate different voltages and frequencies found in various countries to confirm the DUT's reliability. AFC series can handle unbalanced three-phase loads and connect to single-phase or three-phase loads simultaneously.

#### Friendly UI and Hot Key Group









6 hot key group

Meter page (L-N)

Meter page(L-L)

Voltage setting page

The AFC series features a large touchscreen for precise parameter adjustments and remote control via RS-232 and RS-485 interfaces. The display provides real-time monitoring of voltage, current, and power factor, with six customizable hotkeys for quick access to common settings. Additionally, the AFC series offers effortless switching between phase-to-phase and phase-to-neutral connections with a single click.

# **SPECIFICATIONS**

# AFC Series Single-Phase Output (5kVA-30kVA)

Model		AFC-11005-E	AFC-11010	AFC-11015	AFC-11030						
INPUT											
Phase			1Ø /	2 Wire + G							
Voltage*1			22	20V±15%							
Frequency	,		4	7- 63Hz							
Max. Curre		41.8A	74A	111A	222A						
Power Fac		≥ 0.8 ( Max. Power )		≥ 0.85 ( Max. Power )							
OUTPUT	.101	2 0.0 ( IMAX. I OWEI )		E 0.03 ( IVIAX. I OWEI )							
	`	513/4	401378	451370	0017/4						
Power (VA Phase	1)	5kVA	10kVA	15kVA 2 Wire + G	30kVA						
Voltage	Low(V)	5V-150.0V (L-N)	ו שו	0V-155.0V (L-N)							
Ranges	High(V)	10V-300.0V(L-N)		0V-310.0V(L-N)							
Voltage Re		100 000.00(2.11)		0.1V							
Voltage A		0.2% F.S.+4 counts		0.5% F.S.+4 counts							
	-	Standard:47Hz - 63Hz;50Hz;60Hz		Standard : 45-65Hz							
Frequency		Option: 2&4 times frequency;400Hz	Opti	ion: 45-65Hz,100Hz/120Hz/200Hz/240I	Hz/400Hz						
Frequency	Resolution			0.1Hz							
Frequency	Accuracy	±0.1% F.S.		±0.02% F.S.							
Max.	Low(A)	41.7A	83.3A	125A	250A						
Current	High(A)	20.8A	41.7A	62.5A	125A						
Line Regul	ation			< 1%							
Load Regu	lation		< 1% (F	Resistive Load)							
Total Harm			≤ 2% (F	Resistive Load)							
Response			≤ 2ms								
MEASUREN											
Voltage Ro	ange		0/	V-310.0V							
Voltage Re		0.1V									
Voltage A		0.2% F.S.+4counts		0.5% F.S.+4counts							
Frequency	-	0.270 1.101 1.000.110	Λ	5-400Hz							
	Resolution	0.1Hz	0.01Hz								
		±0.1% F.S.		±0.02% F.S.							
Current Ra	Accuracy	±0.1% F.S.		0-250A							
Current	inge(invis)	0.01A		0.1A							
Resolution Current	(RMS)										
Accuracy(	(RMS)	0.2% F.S.+4counts		0.5% F.S.+4counts	T						
Power Ran	ige	0 - 5kW	0 - 10kW	0 - 15kW	0 - 30kW						
Power Res	olution	0.01kW		0.1kW							
Power Acc	curacy	0.3% F.S.+4counts		1% F.S.+6counts							
GENERAL											
Efficiency		≥ 80% at Max. Power	≥ 85% at Max. Power								
HMI		Digital LED Display 7" Touch Screen									
Memories		- Imput NIFP Over Velters		6 sets ( M1/M2/M3/M4/M5/M6)							
Protection		Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature	Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature								
Remote In	-	- Standard : RS-232 &RS-485									
Operating Temperatu		0°C ~ 45°C									
Humidity			0-90% ( Non condensing )								
Altitude		720 v 420 v 520 mm	< 1,500m								
Dimension *5	s (H x W x D)	720 x 430 x 520 mm (including wheels)	1045 x 600 x 800 mm (including wheels) 1440 x 600 x 800 mm wheels)								
		28.3x 16.9 x 20.4 inch (including wheels)		inch (including wheels)	56.7x 23.7 x 31.5 inch (including wheels)						
Weight*⁵		89 kg	210 kg	240 kg	330 kg						
		196.2 lbs	462.9 lbs	529.1 lbs	727.5 lbs						

<sup>\*1</sup> Please contact us for other input voltage specifications. \*2 The max. current is based on rated input voltage of 220V minus 15%.

\*3 For frequency option, please contact us for output power characteristic curve. \*4 When the output voltage is at Low: 90-140V or High 180-280V with load power factor of 1.

\*5 Dimensions and weight are for input voltage 220V. Please contact us for dimensions and weight for other input voltage.

\* All specifications are subject to change without notice. The specifications are tested at ambient temperature of 25°C ± 5°C.

# **SPECIFICATIONS**

# AFC Series Single-Phase Output (10kVA-120kVA)

Model		AFC-31010	AFC-31015	AFC-31030	AFC-31045	AFC-31060	AFC-31080	AFC-31100	AFC-31120			
INPUT												
Phase					3Ø / 3 V							
Voltage*1			C ±15% )V / 208VAC)			380VAC (option: 4						
Frequency			47-63Hz									
Max. Current	2	22A	33A	66A	99A	132A	197.4A	246.7A	296.1A			
Power Factor			2	≥ 0.9 ( Max. Power )			2	0.85 ( Max. Power	· )			
OUTPUT												
Power (VA)		10kVA	15kVA	30kVA	45kVA	60kVA	80kVA	100kVA	120kVA			
Phase					1Ø / 2 V	Vire + G						
Voltage	Low(V)	0V-155.0V ( L-N )										
Ranges	High(V)				0V-310.0	V ( L-N )						
Voltage Reso	lution				0.1	1V						
Voltage Accu	ıracy				0.5% F.S.	+4counts						
Frequency Ro	ınge <sup>*3</sup>			Option: 45 6	Standard		IU / 400U					
Frequency Re	solution			Ориоп . 45-0	0.0	0Hz / 200Hz / 240 1Hz	114/400014					
Frequency Ac					±0.029							
	Low(A)	83.3A	125A	250A	375A	500A	666.7A	833.3A	1000A			
Max. Current	High(A)	41.7A	62.5A	125A	187.5A	250A	333.3A	416.7A	500A			
Line Regulation					< 1	%						
Load Regulat	ion				≤ 1% (Resi	stive Load)						
Total Harmon	ic Distortion*4		≤ 2% (Resistive Load)									
Response Tim	е		≤ 2ms									
MEASUREMEN	T											
Voltage Rang	je				0V-31	10.0V						
Voltage Reso	lution				0.1	IV						
Voltage Accu	ıracy	0.5% F.S.+4counts										
Frequency Ro	inge	45-400Hz										
Frequency Re	esolution	0.01Hz										
Frequency A	ccuracy	±0.02% F.S.										
Current Rang	e(RMS)	0 - 83.3A	0 - 125A	0 - 250A	0 - 375A	0 - 500A	0 - 666.7A	0 - 833.3A	0 - 1000A			
Current Resol	ution(RMS)	0.1A										
Current Accu	racy(RMS)				0.5% F.S.	+4counts						
Power Range		0 - 10kW	0 - 15kW	0 - 30kW	0 - 45kW	0 - 60kW	0 - 80kW	0 - 100kW	0 - 120kW			
Power Resolu	tion				0.1	kW						
Power Accure	асу				1% F.S.+	-6counts						
GENERAL												
Efficiency			≥ 90% at Max. Power ≥ 85% at Max. Power									
HMI			7" Touch Screer	1			10" Touch Screer	1				
Memories					6 sets ( M1/M2/	M3/M4/M5/M6)						
Protection			Input : N.F.B, Over Voltage, Under Voltage Output : Over Voltage, Over Current, Over Temperature									
Remote Interf	ace			Output . O	Standard : RS-232 &RS-485							
Operating Te												
Humidity	,	0-90% (Non condensing )										
Altitude					< 1,5							
Dimensions (	1 x W x D)*⁵	(includin	) x 800 mm g wheels)	1440 x 600 x 800 mm (including wheels)  1645 x 800 x 800 mm (including wheels)			1800 X 1050 X 950 mm 12		1900 x 1150 1200 mm			
		41.1 x 23.6 x 31.5 inch (including wheels)  41.1 x 23.6 x 31.5 inch (including wheels)  41.1 x 23.6 x 31.5 inch (including wheels)				70.9 x 41.3 x 38.2 inch 74.8 x 45. 48.0 inc						
				(misiaamig missis)								
Weight⁵⁵		225kg	270kg	440kg	560kg	650kg	750kg	940kg	1100kg			

<sup>\*1</sup> Please contact us for other input voltage specifications, \*2 The max, current is based on a rated input voltage of 380V minus 15%. \*3 For frequency option, please contact us for output power characteristic curve.
\*4 When the output voltage is at Low: 90-140V or High 180-280V with load power factor of 1. \*5 Dimensions and weight are for input voltage 220/380V. Please contact us for dimensions and weight for other input voltage.
\*All specifications are subject to change without notice. The specifications are tested at ambient temperature of 25°C ± 5°C.

# AFC Series Three-Phase Output (5kVA-80kVA)

	3 THICC-T Hase		<u>-</u>	150 00015	150 00000	150 00015	150 00000	450.0000			
Model		AFC-33005	AFC-33010	AFC-33015	AFC-33030	AFC-33045	AFC-33060	AFC-33080			
INPUT											
Phase		3Ø / 3 Wire + G									
Voltage*1		380Vac ±15% (option: 220 / 208VAC) (option: 480VAC)									
Frequency		47-63Hz									
Max. Curre	ent <sup>*2</sup>	11A	22A	33A	66A	99A	132A	197.4A			
Power Fac	tor		≥ 0.9 Max. Power ≥ 0.85 Ma Power								
OUTPUT											
Power (VA	)	5kVA	10kVA	15kVA	30kVA	45kVA	60kVA	80kVA			
Phase					3Ø / 4 Wire + G						
Voltage	Low(V)		0V-155.0V ( L-N )								
Ranges	High(V)				0V-310.0V ( L-N )						
Voltage Re					0.1V						
Voltage Ad	ccuracy				0.5% F.S.+4counts						
Frequency	Range*3				Standard : 45-65Hz z, 100Hz/120Hz/200						
Frequency	Resolution				0.1Hz						
Frequency	Accuracy				±0.02% F.S.						
Max.	Low(A)	13.9A	27.8A	41.7A	83.3A	125A	166.7A	222.2A			
Current	High(A)	6.9A	13.9A	20.8A	41.7A	62.5A	83.3A	111.1A			
Line Regul	ation				≤ 1%						
Load Regu				≤	1% (Resistive Load	d)					
Total Harm	onic Distortion*4			≤	2% (Resistive Load	d)					
Response 1					≤ 2ms						
MEASUREN											
Voltage Ro	_				0V-310.0V						
Voltage Re					0.1V						
Voltage Ad					0.5% F.S.+4counts						
Frequency	_				45-400Hz						
	Resolution				0.01Hz						
	Accuracy	0 40 04	0.07.04	0 44.74	±0.02% F.S.	0 4054	0 400.74	0.000.04			
Current Ra		0 - 13.9A	0 - 27.8A	0 - 41.7A	0 - 83.3A	0 - 125A	0 - 166.7A	0 - 222.2A			
	solution(RMS)				0.1A 0.5% F.S.+4counts						
	curacy(RMS)	0 - 5kW	0 - 10kW	0 - 15kW	0 - 30kW	0 - 45kW	0 - 60kW	0 - 80kW			
Power Ran		U - SKVV	U - TUKVV	U - 13KVV		0 - 45KVV	0 - 00kvv	U - OUKVV			
Power Acc		0.1kW 1% F.S.+6counts									
GENERAL	oracy				1701.0.10004113						
Efficiency		≥ 90% at Max. Power ≥ 85 % at Ma									
HMI		7" Touch Screen 10" Touch Screen									
Memories					s ( M1/M2/M3/M4/M	5/M6)					
Protection					B, Over Voltage, Un tage, Over Current,						
Remote Int	erface			•	ndard : RS-232 &RS	•					
	Temperature	0°C ~ 45°C									
Humidity				0-9	0% (Non condensi	ng )					
Altitude					< 1,500m	- /					
	*5		0 x 800 mm g wheels)		0 x 800 mm g wheels)	1645 x 800 x 800 mm (including wheels) 1800 x 10 m					
Dimension	s (H x W x D) *5		3 x 31.5 inch g wheels)	56.7 x 23.6 (includin	64.8 x 31.5 x 31.5 inch (including wheels) 70.9x41.3x38.2 in						
Weight *5		205kg	255kg	295kg	390kg	540kg	650kg	1000kg			

<sup>\*1</sup> Please contact us for other input voltage specifications. \*2 The max. current is based on a rated input voltage of 380V minus 15%.

<sup>\*3</sup> for frequency option, please contact us for output power characteristic curve. \*4 When the output voltage is at Low: 90-140V or High 180-280V with load power factor of 1.

\*5 Dimensions and weight are for input voltage 380V. Please contact us for dimensions and weight for other input voltage.

\* All specifications are subject to change without notice. The specifications are tested at ambient temperature of 25°C ± 5°C.

# AFC Series Three-Phase Output (100kVA-640kVA)

Model		AFC- 33100	AFC- 33120	AFC- 33160	AFC- 33240	AFC- 33300	AFC- 33400	AFC- 33500	AFC- 33640		
INPUT											
Phase					3Ø/3V	Nire + G					
Voltage*1		380Vac ±15% (option: 480VAC)									
Frequency					47-6	i3Hz					
Max. Current*2		246.7A	296.1A	394.7A	592.1A	740.2A	986.9A	1233.6A	1579A		
Power Factor					≥ 0.85 ( Ma	x. Power)					
OUTPUT											
Power (VA)		100kVA	120kVA	160kVA	240kVA	300kVA	400kVA	500kVA	640kVA		
Phase				1	3Ø / 4 V	Vire + G					
V. II	Low(V)*6				0-155 V	/ ( L-N )					
Voltage Ranges	High(V)				0-310 V	/ ( L-N )					
Voltage Resolutio	on				0.1	1V					
Voltage Accurac	:y				0.5% F.S.	+4 counts					
Frequency Range				Option : 45	Standard: -65Hz, 100Hz/1	: 45-65Hz 20Hz/200Hz/240	Hz/400Hz				
Frequency Resolu	ution			· ·	0.1						
Frequency Accur					±0.02						
Max. Current	Low(A)	277.8A	333.3A	444.4A	666.7A	833.3A	1111.1A	1388.9A	1777.8A		
(RMS)	High(A)	138.9A	166.7A	222.2A	333.3A	416.7A	555.6A	694.4A	888.9A		
Line Regulation	111911(71)	100.071	100.771		≤ 1			001.171	000.071		
Load Regulation											
Total HarmonicDi	stortion(THD)*4	≤ 1% ( Resistive Load ) ≤ 2% ( Resistive Load )									
Response Time	sioinon(inib)	≤ 2% ( Resistive Load ) ≤ 2ms									
MEASUREMENT											
Voltage Range					0V-31	10 0V					
Voltage Resolution	on	0.1V									
Voltage Accurac		0.5% F.S.+4 counts									
Frequency Range		45-400Hz									
Frequency Resolu		0.01Hz									
Frequency Accur		±0.02% F.S.									
Current Range(R/		0 - 277.8A									
Current Resolutio		0 277.071	0 000.071	0	0.4			0 1000.071	0 11111071		
Current Accurac					0.5% F.S.						
Power Range	y(iiii)	0 - 100kW									
Power Resolution		0.1kW									
Power Accuracy					1% F.S.+						
GENERAL											
Efficiency					> 85% at N	Лах. Power					
HMI					10" Toucl						
Memories											
Protection		6 sets ( M1/M2/M3/M4/M5/M6)  Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature									
Remote Interface		Standard : RS-232 &RS-485									
Operating Tempe		0°C ~ 45°C									
Humidity		0-90% ( Non condensing )									
Altitude					< 1,5						
	M × D) *5	1800 x 1050 x 970 mm	,			2050 x 3130 x 1200 mm	2050 x 354	8x 1520 mm	2050 x 4716 x 1500 mm		
Dimensions (H x \	W X D)	70.9 x 41.3 x 38.2 inch	74 8 9 45 3 9 48 8 Inch   80 7 9 139 7 9 59 8 Inch						80.7 x 185.7 x 59 inch		
_		1170kg	1450kg	1850kg	2800kg	3450kg	4450kg	5550kg	7800kg		
Weight*⁵		2579.8lbs	3197.3lbs	4079.3lbs	6174lbs	7607.25lbs	9812.25lbs	12237.8lbs	17199lbs		

<sup>\*1</sup> Please contact us for other input voltage specifications.
\*3 For frequency option, please contact us for output power characteristic curve.
\*5 Dimensions and weight are for input voltage 380V. Please contact us for dimensions and weight for other input voltage.
\*6 Please contact us for specifications

<sup>\*2</sup> The max, current is based on a rated input voltage of 380V minus 15%. \*4 When the output voltage is at Low: 90-140V or High 180-280V with load power factor of 1.

<sup>\*</sup>All specifications are subject to change without notice. The specifications are tested at ambient temperature of 25°C  $\pm$  5°C .

# **ORDERING INFORMATION**

### AFC Series Single-Phase Output (10kVA-120kVA)

Model Number	Description
AFC-11005-E	High Power Programmable AC Power Source (5kVA/310V/47Hz-63Hz;50Hz;60Hz)
AFC-11010	High Power Programmable AC Power Source (10kVA/310V/45-65Hz)
AFC-11015	High Power Programmable AC Power Source (15kVA/310V/45-65Hz)
AFC-11030	High Power Programmable AC Power Source (30kVA/310V/45-65Hz)
AFC-31010	High Power Programmable AC Power Source (10kVA/310V/45-65Hz)
AFC-31015	High Power Programmable AC Power Source (15kVA/310V/45-65Hz)
AFC-31030	High Power Programmable AC Power Source (30kVA/310V/45-65Hz)
AFC-31045	High Power Programmable AC Power Source (45kVA/310V/45-65Hz)
AFC-31060	High Power Programmable AC Power Source (60kVA/310V/45-65Hz)
AFC-31080	High Power Programmable AC Power Source (80kVA/310V/45-65Hz)
AFC-31100	High Power Programmable AC Power Source (100kVA/310V/45-65Hz)
AFC-31120	High Power Programmable AC Power Source (120kVA/310V/45-65Hz)
AFC-001	45-65Hz, 100Hz/120Hz/200Hz/240Hz/400Hz
AFC-002	400Hz Fixed
AFC-006	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec*1
AFC-011	Remote Control Box
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-002	USB to RS-232 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

# AFC Three-Phase Output(10kVA-640kVA)

Model Number	Description
AFC-33005	High Power Programmable AC Power Source (5kVA/310V/45-65Hz)
AFC-33010	High Power Programmable AC Power Source (10kVA/310V/45-65Hz)
AFC-33015	High Power Programmable AC Power Source (15kVA/310V/45-65Hz)
AFC-33030	High Power Programmable AC Power Source (30kVA/310V/45-65Hz)
AFC-33045	High Power Programmable AC Power Source (45kVA/310V/45-65Hz)
AFC-33060	High Power Programmable AC Power Source (60kVA/310V/45-65Hz)
AFC-33080	High Power Programmable AC Power Source (80kVA/310V/45-65Hz)
AFC-33100	High Power Programmable AC Power Source (100kVA/310V/45-65Hz)
AFC-33120	High Power Programmable AC Power Source (120kVA/310V/45-65Hz)
AFC-33160	High Power Programmable AC Power Source (160kVA/310V/45-65Hz)
AFC-33240	High Power Programmable AC Power Source (240kVA/310V/45-65Hz)
AFC-33300	High Power Programmable AC Power Source (300kVA/310V/45-65Hz)
AFC-33400	High Power Programmable AC Power Source (400kVA/310V/45-65Hz)
AFC-33500	High Power Programmable AC Power Source (500kVA/310V/45-65Hz)
AFC-33640	High Power Programmable AC Power Source (640kVA/310V/45-65Hz)
AFC-001	45-65Hz, 100Hz/120Hz/240Hz/400Hz
AFC-002	400Hz Fixed
AFC-006	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec*1
AFC-007	Input Voltage 208Vac
AFC-008	Input Voltage 480Vac
AFC-009	Input Voltage 220Vac
AFC-010	Input Voltage 400Vac
AFC-011	Remote Control Box
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-002	USB to RS-232 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

 $<sup>^{\</sup>ast}\mbox{1}$  Please contact us for specifications.