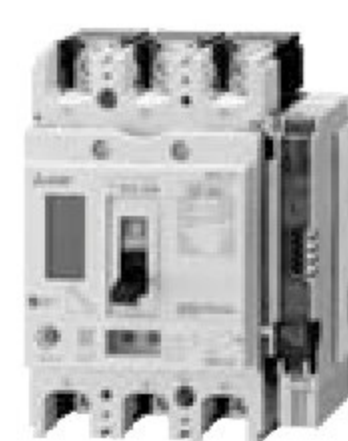
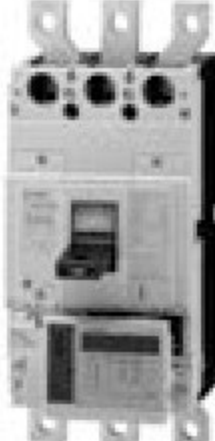

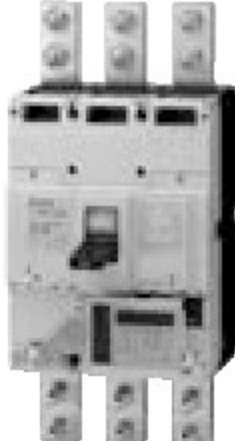
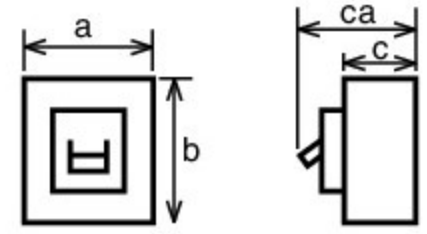


Detailed Specifications

MDU Breakers

Frame (A)			250				400				630				800				
Model			NF250-SEV with MDU		NF250-HEV with MDU		NF400-SEP with MDU		NF400-HEP with MDU		NF630-SEP with MDU		NF630-HEP with MDU		NF800-SEP with MDU		NF800-HEP with MDU		
Image																			
Rated current In (A) Rated ambient temperture 40°C			Adjustable 125-250A (12.5A Step)				Adjustable 200 225 250 300 350 400				Adjustable 300 350 400 500 600 630				Adjustable 400 450 500 500 600 700 800				
Number of poles			3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	
Phase line			3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	
Rated insulation voltage Ui (V)			690				690				690				690				
Rated short-circuit breaking capacities (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	8/8	10/8	10/10	10/10	10/10	15/15	10/10	15/15	10/10	15/15	10/10	15/15	10/10	15/15		
			500V	18/18	30/23	30/30	50/50	30/30	50/50	30/30	50/50	30/30	50/50	30/30	50/50				
			440V	36/36	50/50	42/42	65/65	42/42	65/65	42/42	65/65	42/42	65/65	42/42	65/65				
			415V	36/36	70/70	45/45	70/70	45/45	70/70	45/45	70/70	45/45	70/70	45/45	70/70				
			400V	36/36	75/75	45/45	70/70	45/45	70/70	45/45	70/70	45/45	70/70	45/45	70/70				
			380V	36/36	75/75	45/45	70/70	45/45	70/70	45/45	70/70	45/45	70/70	45/45	70/70				
			230V	85/85	100/100	85/85	100/100	85/85	100/100	85/85	100/100	85/85	100/100	85/85	100/100				
			200V	85/85	100/100	85/85	100/100	85/85	100/100	85/85	100/100	85/85	100/100	85/85	100/100				
100V			—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Rated impulse withstand voltage Uimp (kV)			8				8				8				8				
Current			AC				AC				AC				AC				
Suitability for isolation			Compatible				Compatible				Compatible				Compatible				
Reverse connection (below 240VAC)			—				—				—				—				
Number of operating cycles		Without current	25,000				6,000				6,000				4,000				
		With current	10,000				1,000				1,000				500				
Utilization category			A				B				B				B				
Pollution degree			3				3				3				3				
EMC environment condition (environment A or B)			A				A				A				A				
Overall dimensions (mm)			a	105	140	105	140	140	185	140	185	210	280	210	280	210	280	210	280
			b	165				257				275				275			
			c	68				103				103				103			
			ca	92				155				155				155			
Mass of front-face type (Breaker mounting) (kg)			1.8	2.3	1.8	2.3	6.2	8	6.2	8	10.7	13.8	10.7	13.8	11.1	14.4	11.1	14.4	
MDU installation			Breaker mounting, Panel mounting (*1)				Breaker mounting, Panel mounting (*2)												
Installation and connections	Front	(F)	Page	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Rear (*3)	(B)	716	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Plug-in	(PM)		—				—				—				—			
Cassette-type accessories	Alarm switch	(AL)	725	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	
	Auxiliary switch	(AX)		●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	
	Shunt trip	(SHT)		●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	
	Undervoltage trip	(UVT)		●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	
	MDU transform AL, AX, AL + AX	(MG)		●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	●	●(*4)	
	With lead-wire terminal block	(SLT)	737	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Alarm contact	Pre-alarm (PAL)	739	● PAL 1a				● PAL 1a				● PAL 1a				● PAL 1a			
	output (*5)	Trip-indicator (TI)		—				● PAL 1a, OAL 1a				● PAL 1a, OAL 1a				● PAL 1a, OAL 1a			
External accessories (*2)	Electrical operation device (*6) (NFM)	756	Available only for the MDU panel mounting type				Available only for the MDU panel mounting type. Disavailable alarm contact output.												
	Mechanical interlock (MI) (*7)	Panel mounting	752	●				●				●				●			
	Breaker mounting	●(*9)		—	●(*9)	—	Available only for the MDU panel mounting type												
	Handle lock device	LC	750	●				—				—				—			
		HL		●				●				●				●			
		HL-S		—				—				—				—			
	External operating handle	(F)	740	—				—				—				—			
		(V)		—				—				—				—			
	Terminal cover	TC-L	744	●(*8)	●	●(*8)	●	Available only for the MDU panel mounting type											
		TC-S		●(*8)	●	●(*8)	●	—											
		TTC		●(*8)	●(*8)	●(*8)	●(*8)	●(*8)											
BTC		●(*8)		●	●(*8)	●	Available only for the MDU panel mounting type and line side												
Rear stud (B-ST)			718	●	●(*8)	●	●	—				—				—			
Automatic tripping device			Electronic (effective value detection)				Electronic (effective value detection)				Electronic (effective value detection)				Electronic (effective value detection)				
MDU measurement specifications			See. 36																
Trip button			Equipped				Equipped				Equipped				Equipped				
Page of Characteristics and dimensions			832				834				836				836				

- Notes: *1 In the case of panel mounting, the panel holder plate, the screws and the MDU connection cable (2m) are packed as standard. The MDU connection cable of 0.5m, 3m, 5m and 10m can be specified when ordering. And dimension of the front panel drilling of the breaker is different between breaker mounting and panel mounting.
- *2 In the case of panel mounting, the panel holder plate, the nuts and the MDU connection cable (2m) are packed as standard. The MDU connection cable of 0.5m, 3m, 5m and 10m can be specified when ordering.
- *3 For 250AF breakers, the studs are packed as standard. For 400/630/800AF breakers, please specify the installation angle of the studs because it is installed to the breaker before shipping.
- *4 It can be installed to the breaker by each customer.
- *5 In the case of the breaker with alarm contact output, the module (terminal) is attached to the right side of the breaker and the control power (AC/DC 100-240V 50-60Hz 5VA) is needed. The Output function for alarm output of PAL can set "Self-holding" or "Auto-reset". Default setup is "Auto-reset".
- *6 For 250AF of electrical operation device, AL is used for the trip indication as standard. The breaker with alarm output contact is not available.
- *7 Not isolation compatible.
- *8 In the case of breaker mounting, the terminal cover is special type for MDU breaker.
- *9 Available only for the MDU panel mounting type.

Measuring Display Unit Breakers

(Circuit Breakers with Measuring Display Unit)

- Three major features of Measuring Display Unit Breakers
 1. Saving of space and labor for installation
 2. Improved and diversified functions
 3. Provision of total cost advantages

Measuring Display Unit Breakers with built-in VT and CT and Measuring Display Unit realize measurement, display and transmission of electric circuit information in small space with less installation and wiring work and provide total cost advantages.

The Measuring Display Unit Breakers full of functions in small bodies are suitable for monitoring and protection of electric circuits and maintenance of equipment. A wide variety of models applicable to various networks supports the customers' energy saving activities through detailed energy control as energy saving supporting devices.

- Simply realizing measurement and monitoring of electric circuits for supporting various types of energy saving control

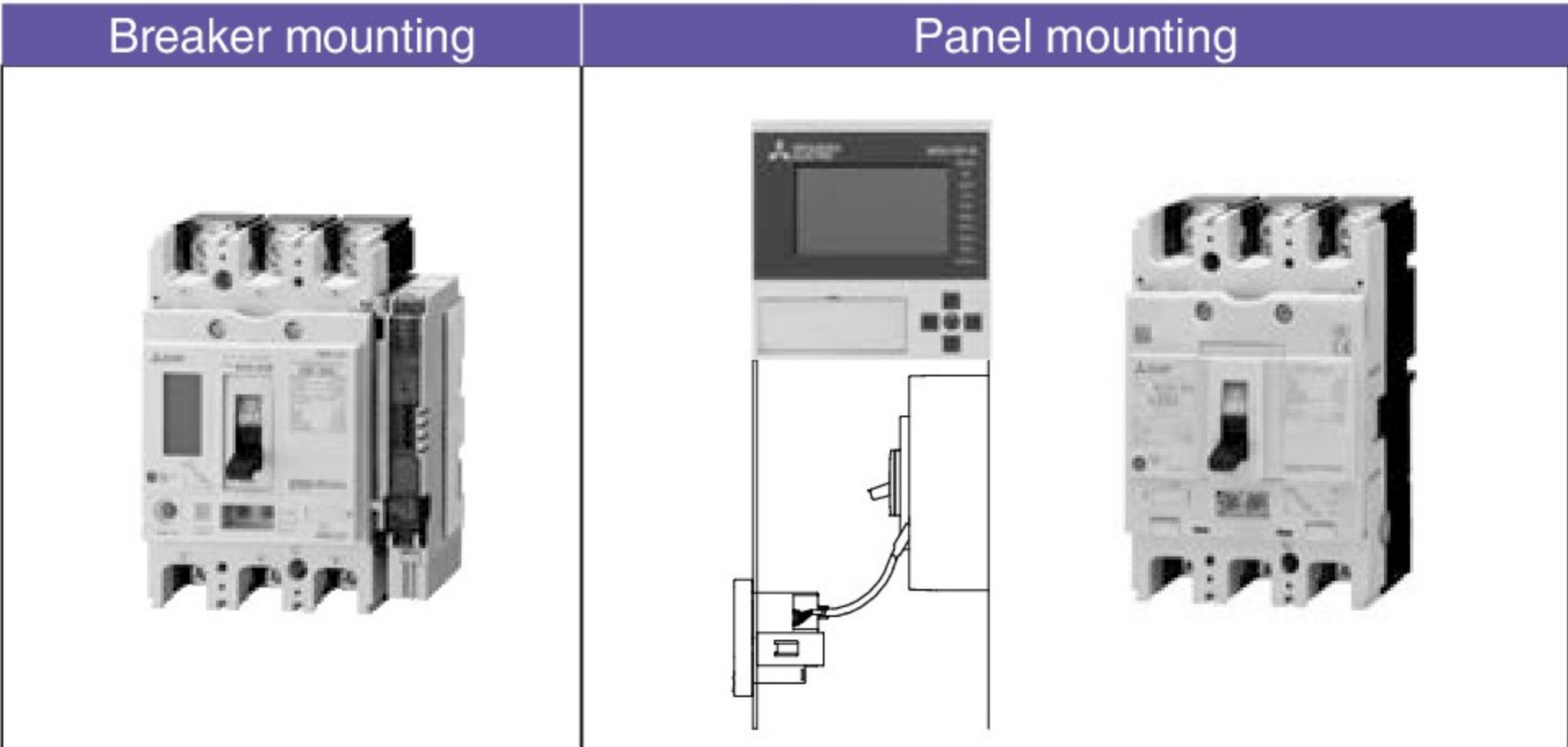
The circuit breakers measure and display the load current, line voltage, electric power, electric energy, harmonic current, leak current and power factor to realize detailed energy control. They support customers' energy saving control.

WS-V Series Measuring Display Unit Breakers

Applicable models
NF250-SEV with MDU, NF250-HEV with MDU

- The measuring display unit can be installed on the body or panel.

【Examples of installation of measuring display unit】



Note: The size of holes in the face board of the circuit breaker body varies depending on whether the measuring display unit is installed on the body or the panel.

Model list

Model type	Type name
CC-Link communication	MDU-DP-C
Electric energy pulse output	MDU-DP-P
No transmission	MDU-DP-N

Measuring Display Unit cable list

Type name	Cable length
MDU-DP-CB-2M	2m
MDU-DP-CB-3M	3m
MDU-DP-CB-5M	5m
MDU-DP-CB-10M	10m

W & WS Series Measuring Display Unit Breakers

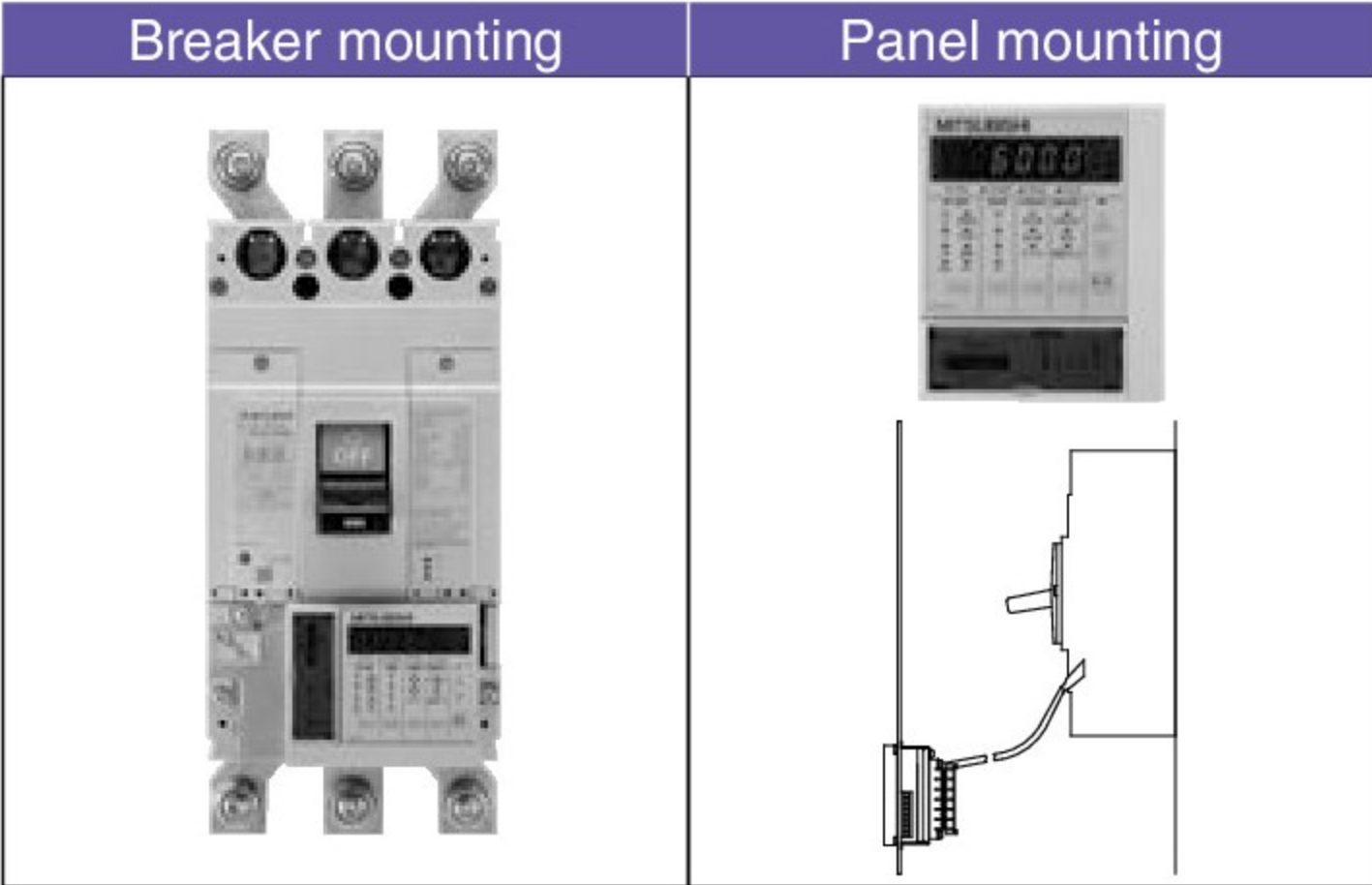
Applicable models
NF400-SEP with MDU, NF400-HEP with MDU, NF630-SEP with MDU, NF630-HEP with MDU, NF800-SEP with MDU, NF800-HEP with MDU

- The measuring display unit can be installed on the body or panel.

Model list

Model type	Type name	Remarks
CC-Link communication	MDU-AC ○○○	• The model names do not include ○○○.
Electric energy pulse output	MDU-AP ○○○	• When installing the Measuring Display Unit on the body, specify the A frame type in ○○○.
No transmission	MDU-AN ○○○	For example, when the circuit breaker NF400-SEP with MDU and the Measuring Display Unit with CC-Link communication are combined, the model name is MDU-AC400. If 630A frame or 800A frame is used, specify 630 or 800 in ○○○. • When installing the Measuring Display Unit on the panel, specify the cable length (0.5 m, 2 m, 3 m, 5 m or 10 m) in ○○○. For example, when the Measuring Display Unit with CC-Link communication is installed on the panel with a 3-m cable, the model name is MDU-AC-PANEL 3M.

【Examples of installation of measuring display unit】



●Specifications for Measuring Display Unit (1)

The measurement and display items vary depending on the model or frame A.
(For the measurement accuracy, please refer to page 697.)

Applicable models
NF250-SEV with MDU, NF250-HEV with MDU

Table 1

Measurement and memory items (accuracy) (*1) (*2)			Model	Display	Storage (*3)	With CC-Link communication	Remarks
						Communication	
Load current (±1.0%)	Present value	Each phase		●	–	●	
		General (average value) (*5)		●	–	●	
		Phase with max. value		–	–	●	
	Present value of demand (*4)	Each phase		●	–	●	
		Phase with max. value		●	–	●	
		Max. demand value among all phases		●	●	●	
	Time of occurrence of max. demand value among all phases			●	●	●	
Line voltage (±1.0%)	Present value	Between each lines		●	–	●	
		General (average value) (*5)		●	–	●	
	Max. value among all lines			●	●	●	
	Time of occurrence of max. value among all lines			●	●	●	
Harmonic current (±2.5%)	Present value	Fundamental wave of each phase		●	–	●	
		Each order of each phase		●	–	●	
		General of each phase (*6)		●	–	●	
	Max. value of fundamental wave among all phases			●	●	●	
	Time of occurrence of max. value of fundamental wave among all phases			●	●	–	
	Max. value in each order of each phase			●	●	●	
	Time of occurrence of max. value in each order of each phase			●	●	●	
	Demand value (*4)	General of each phase (*6)		●	–	●	
		General max. value among all phases		●	●	●	
		Time of occurrence of general max. value among all phases		●	●	●	
	General distortion factor of each phase			●	–	–	
	Content in each order of each phase			●	–	–	
Electric power (±1.5%)	Present value			●	–	●	
	Demand value (*4)	Present value		●	–	●	
		Max. value		●	●	●	
		Time of occurrence of max. value		●	●	●	
Reactive power (±2.5%)	Present value			●	–	●	
	Demand value (*4)	Present value		●	–	●	
		Max. value		●	●	●	
		Time of occurrence of max. value		●	●	●	
Electric energy (±2.0%) (*7)	Integrated value			●	●	●	
	Amount for last 1 hour			●	–	●	Value accumulated from previous reset to present
	Max. value of amount for 1 hour			●	●	●	
	Time of occurrence of max. value of amount for 1 hour			●	●	●	
Reactive energy (±3.0%) (*7)	Integrated value			●	●	●	
	Amount for last 1 hour			●	–	●	Value accumulated from previous reset to present
	Max. value of amount for 1 hour			●	●	●	
	Time of occurrence of max. value of amount for 1 hour			●	●	●	
Cause of fault (*8)	Fault current (accuracy: ±15%)			●	●	●	Information on fault after previous reset or last fault, and cause of fault (continuously monitored)
	Cause of fault			●	●	●	
Power factor (±5.0%)	Present value			●	–	●	
	Max. value			●	●	●	
	Time of occurrence of max. value			●	●	–	
Frequency (±2.5%)	Present value			●	–	●	
Alarm of circuit breaker (*9)	PAL, OVER, IDM_AL, ILA_AL, IUB_AL			●	–	●	The PAL functions are enabled when the MDU breaker with PAL module (option) is used.
	Neutral line open phase alarm			●	–	–	The neutral line open phase alarm is given only on the display.
	Tripping state of circuit breaker (AL)			–	–	●	On installation of alarm switch for transmission with Measuring Display Unit (option)
State of circuit breaker	ON/OFF state of circuit breaker (AX)			–	–	●	On installation of auxiliary switch for transmission with Measuring Display Unit (option)
	Number of times of tripping of circuit breaker			–	●	●	On installation of alarm switch for transmission with Measuring Display Unit (option)
	Number of times of opening and closing of circuit breaker			–	●	●	On installation of auxiliary switch for transmission with Measuring Display Unit (option)
	Time setting			●	●	●	Initial setting and resetting after power failure are necessary (no power failure compensation)
Default settings	Demand time limit setting (*4)			●	●	●	By default, the demand time limit is 2 min. It can be set in the range from 0 to 15 min in 1-min steps.
	IDM_AL (current demand alarm)			●	●	●	By default, the function is off. The parameters can be set in the following ranges. Function: ON/OFF Pickup current: 50 to 100% (1% step) Demand time limit: 1 to 10 min (1-min step), 15, 20, 25 and 30 min
	ILA_AL (current open phase alarm)			●	●	●	By default, the function is off. The parameters can be set in the following ranges. Function: ON/OFF Pickup current: 10%, fixed (no setting) Operating time: 30 sec (no setting)
	IUB_AL (unbalanced current alarm)			●	●	●	By default, the function is off. The parameters can be set in the following ranges. Function: ON/OFF Pickup current: 30%, fixed (no setting) Operating time: 30 sec (no setting)
	Neutral line open phase alarm			●	●	●	30 When the single-phase 3-wire type is set, the function is turned on. Rated operating overvoltage: 135 V AC (no setting) Operating time: 1 sec (no setting)
	Phase switching setting			●	●	●	Default: No phase switching
	Alarm retention (self-retention or automatic reset) setting			●	●	●	Default: Automatic reset
	Phase and wire type			●	●	●	Default: 3-phase 3-wire
	Electric energy arbitrary setting			●	●	●	
	Reactive energy arbitrary setting			●	●	●	
	Display direction			●	●	●	Default: Vertical One of vertical, horizontal 1 and horizontal 2 can be selected.

Notes: *1 The term “each phase” used for load current and harmonic current refers to phase 1, 2, 3 or N. However, the phase N is provided only on 4-pole circuit breakers. The term “between each phase” used for line voltage refers to between phases 1 and 2, 2 and 3, 3 and 1, 1 and N, 2 and N or 3 and N. However, voltage between phases 1 and N, 2 and N and 3 and N is applicable only on 4-pole circuit breakers. These circuit breakers measure the values every 0.25 sec. Therefore, even when a low order circuit breaker operates, operating current may not be measured.
*2 Each maximum value is the largest value among values obtained from the start of operation (after the previous reset) to the present.
*3 The integrated value of electric energy and the integrated value of reactive energy are stored upon occurrence of power failure and every 30 minutes, the fault current and the cause are stored upon occurrence of fault, the set values are stored when they are set, and other values are stored every 30 minutes in the nonvolatile E²PROM.
*4 The demand time limit cannot be set individually. It is common to the items.
*5 The average values of load current and line voltage are calculated as shown below when the phase and wire type is specified.

Phase and wire type	Average present value of current	Average present value of voltage
Single-phase 2-wire	Average present value of current = phase 3 current	Average present value of voltage = voltage between phases 2
Single-phase 3-wire	Average present value of current = (phase 1 current + phase 3 current)/2	Average present value of voltage = (voltage between phases 1 and 2 + voltage between phases 2 and 3)/2
3-phase 3-wire	Average present value of current = (phase 1 current + phase 2 current + phase 3 current)/3	Average present value of voltage = (voltage between phases 1 and 2 + voltage between phases 2 and 3 + voltage between phases 3 and 1 phases)/3

*6 Sum of values of harmonic components in third to 19th orders except fundamental wave component
*7 The reverse power is not measured.
*8 If the upper limit of the fault current measurement range (rated current 125 to 250 A (adjustable): 4000 A, rated current 50, 60, 75, 100, 125 A (fixed): 2000 A)) is exceeded when overload or short circuit fault occurs, the cause of the fault may not be displayed, and the fault current may not be measured. For fault current, display of cause of fault and measurement of fault current are enabled when the AL for transmission with the Measuring Display Unit (option) is installed.
*9 When the alarm retention mode has been set to Automatic reset, the alarm display on the Measuring Display Unit will be reset automatically. When the alarm retention mode is Self-retention, the alarm display will be self-retained. In the self-retention mode, the display can be reset through the alarm reset operation (collective reset). OVER will be automatically reset regardless of the mode setting.

Specifications for Measuring Display Unit(1)

The measurement and display items vary depending on the model or frame A.

(For the measurement accuracy, please refer to page 698.)

Applicable models
NF400-SEP with MDU, NF400-HEP with MDU, NF630-SEP with MDU, NF630-HEP with MDU, NF800-SEP with MDU, NF800-HEP with MDU

Table 2

Measurement and memory items (accuracy) (*3)		Model	MDU Display	Storage (*1)	Electric energy with pulse output	With CC-Link communication	Remarks
		Pulse output (*1)			Communication		
Load current (±2.5%)	Present value of each phase	●	—	—	●	Time limit: 0 to 15 min, changeable (Same as the present value when 0 min is specified) } Max. demand value after previous reset	
	Demand value of each phase	●	—	—	●		
	Average present value (*11)	●	—	—	●		
	Max. demand value (general value) (*4)	●	●	—	●		
	Time of occurrence of max. value (year, month, day, hour, minute)	—	●	—	●		
Line voltage (±2.5%)	Present value between each phases	●	—	—	●	} Max. value after previous reset (not demand value)	
	Average present value (*11)	●	—	—	●		
	Max. value (general value) (*4)	●	●	—	●		
	Time of occurrence of max. value (year, month, day, hour, minute)	—	●	—	●		
Harmonic current (±2.5%)	Current value in 3rd, 5th, 7th ... 19th orders of each phase	●	—	—	●	} Max. value after previous reset (not demand value)	
	Max. value in 3rd, 5th, 7th ... 19th orders (general value) (*4)	●	●	—	●		
	Time of occurrence of max. value (year, month, day, hour, minute)	—	●	—	●		
	Current value of general harmonics of each phase (*10)	Demand value of general harmonics of each phase (*10)	●	—	—	●	Time limit: 0 to 15 min, changeable (Same as the present value when 0 min is specified) } Max. demand value after previous reset
		Max. demand value (general value) (*4)	●	●	—	●	
Time of occurrence of max. value (year, month, day, hour, minute)		—	●	—	●		
Electric power (±2.5%)		Current value (also reverse power is measured)	●	—	—	●	
	Demand value (also reverse power is measured)	●	—	—	●		
	Max. demand value	●	●	—	●		
	Time of occurrence of max. value (year, month, day, hour, minute)	—	●	—	●		
Electric energy (±2.5%)	Electric energy (integrated value) (*5)	●	●	●	●	Value accumulated from previous reset to present Amount for 1 hour from hour to hour on built-in clock } Max. demand value after previous reset	
	Electric energy per time (*5)	●	—	—	●		
	Max. value of electric energy per time (*5)	●	●	—	●		
	Time of occurrence of max. value (year, month, day, hour, minute)	—	●	—	●		
Cause of fault	Fault current (accuracy: ±15%) (*11)	● ●	● ●	— —	● ●	Information on fault after previous reset or last fault, and cause of fault (continuously monitored)	
Power factor (±5%)	Present value	●	—	—	●		
Alarm of circuit breaker	PAL, OVER (*6) (*11)	● LED on	—	—	●		
State of circuit breaker	Tripping state of circuit breaker (AL)	—	—	—	●	When alarm switch for transmission with Measuring Display Unit (option) is installed When auxiliary switch for transmission with Measuring Display Unit (option) is installed	
	ON/OFF state of circuit breaker (AX)	—	—	—	●		
Default settings	Time setting	—	—	—	●	Initial setting and resetting after power failure are necessary (no power failure compensation).	
	Demand time limit setting (*7)	●	●	—	●	Default: 2 min Setting in 1-min steps in range from 0 to 15 min	
	PAL pickup current setting * Setting on circuit breaker body The Measuring Display Unit does not have the setting function.	●	●	—	●	Default: 100% Setting in 5% steps in range from 70 to 100% Default setting on breaker body is 70% unless otherwise specified.	
	Pulse unit setting	●	●	—	—	Default: 1 kWh/pulse Setting to 1 kWh, 10 kWh, 100 kWh, 1000 kWh or 10000 kWh	
	Phase switching setting	●	●	—	●	Default: No phase switching	
	Alarm retention (self-retention or automatic reset) setting	●	●	—	●	Default: Automatic reset	

Notes: *1 The electric energy (integrated value) is stored upon occurrence of power failure and every 2 hours, the fault current and the cause are stored upon occurrence of fault, the demand time limit, EPAL sensitivity current, PAL pickup current, pulse unit, alarm retention and phase switching settings are stored when they are set, and other values are stored every 2 hours in the nonvolatile E²PROM.
Each maximum value is the largest value among values obtained from the start of operation (after the previous reset) to the present.
*2 Every time the electric energy is integrated in the pulse unit (the unit can be set to 1 kWh, 10 kWh, 100 kWh, 1000 kWh or 10000 kWh), a pulse is output. Counting can be performed with a PLC.
*3 The term “each phase” used for load current and harmonic current refers to phase 1, 2, 3 or N. However, the phase N is provided only on 4-pole circuit breakers.
The term “between each phase” used for line voltage refers to between phases 1 and 2, 2 and 3, 3 and 1, 1 and N, 2 and N or 3 and N. However, voltage between phases 1 and N, 2 and N and 3 and N is applicable only on 4-pole circuit breakers.
The electric energy data is 6-digit data of up to 999999 kWh. The voltage and harmonic current are 3-digit data, and others are 4-digit.
These circuit breakers measure the values every 0.25 sec. Therefore, even when a low order circuit breaker operates, operating current may not be measured.
*4 Each general value indicates the value only of the phase with the maximum value.
*5 The electric energy is not measured in the case of reverse power flow.
*6 When the alarm retention mode has been set to Automatic reset, the PAL alarm LED display on the Measuring Display Unit front panel will be reset automatically. When the alarm retention mode is Self-retention, the alarm display will be self-retained. In the self-retention mode, the display can be reset through alarm reset operation (collective reset). OVER will be automatically reset regardless of the mode setting.
*7 The demand time limit cannot be set individually. It is common to the items.
*8 Sum of values of harmonic components in third to 19th orders except fundamental wave component.
*9 The average present value of load current is the average value of current among phases 1, 2 and 3 (the current of the phase N is not included even in the case of a 4-pole circuit breaker). When the circuit breaker is used on a single-phase 3-wire circuit, the calculated value is displayed. However, ignore it. The average present value of line voltage is the average value of voltages between phases 1 and 2, 2 and 3 and 3 and 1 (the voltages between phases 1 and N, 2 and N and 3 and N are not included in the case of a 4-pole circuit breaker).
*10 Setting at the pre-alarm current I_p (which can be set in the range from 70 to 100% of the rated current I_n in 5% steps) on the circuit breaker body. The Measuring Display Unit does not have the setting function.
*11 The operating time of PAL is shown below.

PAL	Same as pre-alarm operating time T _p on circuit breaker body
-----	---