11.6 Input Terminal Function

It can be assigned the function No. in the following table to parameter $F\,104$, $F\,108$, $F\,110$ to $F\,118$, $F\,151$ to $F\,156$, $A\,973$ to $A\,976$.

- Table of input terminal functions 1

Function No.	Code	Function	Action	Reference
0,1	-	No function	Disabled	-
2	F	Forward run command	ON: Forward run, OFF: Deceleration stop	7.2.1
3	FN	Inversion of forward run command	Inversion of F	
4	R	Reverse run command	ON: Reverse run, OFF: Deceleration stop	
5	RN	Inversion of reverse run command	Inversion of R	
6	ST	Standby	ON: Ready for operation OFF: Coast stop (gate OFF)	3.1.1 5.9
7	STN	Inversion of standby	Inversion of ST	6.7.1 6.34.8
8	RES	Reset command 1 *2	ON: Acceptance of reset command, ON → OFF: Trip reset	13.2
9	RESN	Inversion of reset command 1 *2	Inversion of RES	
10	SS1	Preset-speed command 1		5.7 7.2.1
11	SS1N	Inversion of preset-speed command 1		
12	SS2	Preset-speed command 2		
13	SS2N	Inversion of preset-speed command 2	Selection of 15-speed SS1 to SS4 (SS1N to SS4N) (4 bits)	
14	SS3	Preset-speed command 3		
15	SS3N	Inversion of preset-speed command 3		
16	SS4	Preset-speed command 4		5.7
17	SS4N	Inversion of preset-speed command 4		
18	JOG	Jog run mode	ON: Jogging mode, OFF: Jog run canceled	6.14
19	JOGN	Inversion of jog run mode	Inversion of JOG	
20	EXT	Emergency stop by external signal	ON: E trip stop, OFF: After stopped by $F603$, E trip	6.29.4
21	EXTN	Inversion of emergency stop by external signal	Inversion of EXT	
22	DB	DC braking command	ON: DC braking, OFF: Brake canceled	6.12.1
23	DBN	Inversion of DC braking command	Inversion of DB	
24	AD2	2nd acceleration/deceleration	ON: Acceleration/deceleration 2 OFF: Acceleration/deceleration 1	6.8.1 6.27.2
25	AD2N	Inversion of 2nd acceleration/deceleration	Inversion of AD2	
26	AD3	3rd acceleration/deceleration	ON: Acceleration/deceleration 3 OFF: Acceleration/deceleration 1 or 2	
27	AD3N	Inversion of 3rd acceleration/deceleration	Inversion of AD3	
28	VF2	2nd V/F control mode switching	ON: 2nd V/F control mode (V/F fixed, $F\,170$, $F\,171$, $F\,172$, $F\,173$ (tHr when $F632=2$ or 3)) OFF: 1st V/F control mode (Pt setting, uL, uLu, ub, tHr)	6.8.1
29	VF2N	Inversion of 2nd V/F control mode switching	Inversion of VF2	
32	OCS2	2nd stall prevention level	ON: Enabled at the value of $F\,185$, $F\,444$ and $F\,445$ OFF: Enabled at the value of $F601$, $F441$ and $F443$	6.8.1 6.29.2
33	OCS2N	Inversion of 2nd stall prevention level	Inversion of OCS2	
36	PID	PID control prohibition	ON: PID control prohibited, OFF: PID control enabled	6.24
37	PIDN	Inversion of PID control prohibition	Inversion of PID	
46	OH2	External thermal error input	ON: $OH2$ trip stop, OFF: Disabled	7.2.1
47	OH2N	Inversion of external thermal error input	Inversion of OH2	
48	SCLC	Forced local from communication	Enabled during communication ON: Local (Setting of $CNOd$, $FNOd$) OFF: Communication	6.2.1 6.38
49	SCLCN	Inversion of forced local from communication	Inversion of SCLC	
50	HD	Operation hold (hold of 3-wire operation)	ON: F (forward run), R: (reverse run) held, 3-wire operation OFF: Deceleration stop	7.2.1
51	HDN	Inversion of operation hold (hold of 3-wire operation)	Inversion of HD	

*2: These functions are cannot be assigned to Always active function selection 1 to 3 ($F\,104$, $F\,108$, $F\,110$).

- Table of input terminal functions 2

Function No.	Code	Function	Action	Reference
52	IDC	PID integral/differential clear	ON: Integral/differential clear, OFF: Clear canceled	6.24
53	IDCN	Inversion of PID integral/differential clear	Inversion of IDC	
54	DR	PID characteristics switching	ON: Inverted characteristics of $F\,380$ selection OFF: Characteristics of $F\,380$ selection	
55	DRN	Inversion of PID characteristics switching	Inversion of DR	
56	FORCE	Forced run operation	ON: Forced run operation if specified faults are occurred ($F\,294$ frequency) OFF: Normal operation	6.30
57	FORCEN	Inversion of forced run operation	Inversion of FORCE	
58	FIRE	Fire speed operation	ON: Fire speed operation ($F\,294$ frequency) OFF: Normal operation	
59	FIREN	Inversion of fire speed operation	Inversion of FIRE	
60	DWELL	Acceleration/deceleration suspend signal	ON: Acceleration/deceleration suspend OFF: Normal operation	6.23
61	DWELLN	Inversion of acceleration/deceleration suspend signal	Inversion of DWELL	
62	KEB	Power failure synchronized signal	ON: Deceleration stop with synchronizing when power failure OFF: Normal operation	6.19.2
63	KEBN	Inversion of power failure synchronized signal	Inversion of KEB	
64, 65		Factory specific coefficient	-	*1
70, 71		Factory specific coefficient	-	*1
74	CKWH	Integrating wattmeter(kWh) display clear	ON: Integrating wattmeter(kwh) monitor display clear OFF: Disabled	6.36
75	CKWHN	Inversion of integrating wattmeter display clear	Inversion of CKWH	
76	TRACE	Trace back trigger signal	ON: Trigger(start) signal of trace function OFF: Disabled	6.35
77	TRACEN	Inversion of trace back trigger signal	Inversion of TRACE	
78	HSLL	Light-load high-speed operation prohibitive signal	ON: Light-load high-speed operation prohibited OFF: Light-load high-speed operation permitted	6.21
79	HSLLN	Inversion of light-load high-speed operation prohibitive signal	Inversion of HSLL	
80	HDRY	Holding of RY-RC terminal output	ON: Once turned on, RY-RC are held on. OFF: The status of RY-RC changes in real time according to conditions.	7.2.2
81	HDRYN	Inversion of holding of RY-RC terminal output	Inversion of HDRY	
82	HDOUT	Holding of OUT-NO terminal output	ON: Once turned on, OUT-NO are held on. OFF: The status of OUT-NO changes in real time according to conditions.	
83	HDOUTN	Inversion of holding of OUT-NO terminal output	Inversion of HDOUT	
88	UP	Frequency UP	ON: Frequency increased OFF: Frequency increase canceled	6.10.4
89	UPN	Inversion of frequency UP	Inversion of UP	
90	DWN	Frequency DOWN	ON: Frequency decreased OFF: Frequency decrease canceled	
91	DWNN	Inversion of frequency DOWN	Inversion of DWN	
92	CLR	Clear frequency UP/DOWN	OFF → ON: Clear frequency UP/DOWN	
93	CLRN	Inversion of clear frequency UP/DOWN	Inversion of CLR	
96	FRR	Coast stop command	ON: Coast stop (Gate OFF) OFF: Coast stop canceled	3.1.1 6.34.8
97	FRRN	Inversion of coast stop command	Inversion of FRR	
98	FR	Forward/reverse selection	ON: Forward operation command OFF: Reverse operation command	7.2.1
99	FRN	Inversion of forward/reverse selection	Inversion of FR	

*1: Factory specific coefficient parameters are manufacturer setting parameters. Do not change the value of these parameters.

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• Table of input terminal functions 3

Function No.	Code	Function	Action	Reference
100	RS	Run/Stop command	ON: Run command OFF: Stop command	7.2.1
101	RSN	Inversion of run/Stop command	Inversion of RS	
104	FCHG	Frequency setting mode forced switching	ON: $F207$ ($F200=0$) OFF: $F\Pi od$	6.2.1
105	FCHGN	Inversion of frequency setting mode forced switching	Inversion of FCHG	
106	FMTB	Frequency setting mode terminal block	ON: Terminal block (VIA) enabled OFF: Setting of $F\Pi od$	
107	FMTBN	Inversion of frequency setting mode terminal block	Inversion of FMTB	
108	CMTB	Command mode terminal block	ON: Terminal block enabled OFF: Setting of $C\Pi od$	
109	CMTBN	Inversion of command mode terminal block	Inversion of CMTB	
110	PWE	Parameter editing permission	ON: Parameter editing permitted OFF: Setting of $F700$	6.34.1
111	PWEN	Inversion of parameter editing permission	Inversion of PWE	
120	FSTP1	Fast stop command 1	ON: Dynamic quick deceleration command OFF: Forced deceleration canceled (Note that operation is resumed when forced deceleration is canceled)	6.1.4
121	FSTP1N	Inversion of fast stop command 1	Inversion of FSTP1	
122	FSTP2	Fast stop command 2	ON: Automatic deceleration OFF: Forced deceleration canceled (Note that operation is resumed when forced deceleration is canceled)	
123	FSTP2N	Inversion of fast stop command 2	Inversion of FSTP2	
134	TVS	Traverse permission signal	ON: Permission signal of traverse operation OFF: Normal operation	6.40
135	TVSN	Inversion of traverse permission signal	Inversion of TVS	
136	RSC	Low voltage operation signal	ON: Low voltage operation OFF: Low voltage operation canceled	6.17
137	RSCN	Inversion of low voltage operation signal	Inversion of RSC	
140	SLOWF	Forward deceleration	ON: Forward operation with $F383$ frequency OFF: Normal operation	6.22.2
141	SLOWFN	Inversion of forward deceleration	Inversion of SLOWF	
142	STOPF	Forward stop	ON: Forward stop, OFF: Normal operation	
143	STOPFN	Inversion of forward stop	Inversion of STOPF	
144	SLOWR	Reverse deceleration	ON: Reverse operation with $F383$ frequency OFF: Normal operation	
145	SLOWRN	Inversion of reverse deceleration	Inversion of SLOWR	
146	STOPR	Reverse stop	ON: Reverse stop, OFF: Normal operation	
147	STOPRN	Inversion of reverse stop	Inversion of STOPR	
148 to 151		Factory specific coefficient	-	*1
152	MOT2	No.2 motor switching (AD2+VF2+OCS2)	ON: No.2 motor (Pt=0, $F170$, $F171$, $F172$, $F173$ (tHr when $F632$=2 or 3), $F185$, $F500$, $F501$, $F503$) OFF: No.1 motor (Set value of Pt, uL, uLu, ub, tHr, ACC, dEC, $F502$, $F601$)	6.8.1
153	MOT2N	Inversion of No.2 motor switching (AD2+VF2+OCS2)	Inversion of MOT2	
158	RES2	Reset command 2 *2	ON: Trip reset	13.2
159	RES2N	Inversion of reset command 2 *2	Inversion of RES2	
200	PWP	Parameter editing prohibition	ON: Parameter editing prohibited OFF: Setting of $F700$	6.34.1
201	PWPN	Inversion of parameter editing prohibition	Inversion of PWP	
202	PRWP	Parameter reading prohibition	ON: Parameter reading / editing prohibited OFF: Setting of $F700$	
203	PRWPN	Inversion of parameter reading prohibition	Inversion of PRWP	

*1: Factory specific coefficient parameters are manufacturer setting parameters. Do not change the value of these parameters.

*2: These functions are cannot be assigned to Always active function selection 1 to 3 ($F104$, $F108$, $F110$).

Note 1: Function No. that are not described in the table above are assigned "No function".

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- Input terminal function priority

Code	Function No.	2,3 4,5	6,7	8,9	10,11 12,13 14,15 16,17	18 19	20 21	22 23	24,25 28,29 32,33	36,37 52,53 54,55	48 49 106 107 108 109	50 51	88,89 90,91 92,93	96 97	110 111 200 201	122 123
F/ R	2,3 4,5		X	○	○	○	X	X	○	○	○	○	○	X	○	X
ST	6,7	◎		○	◎	◎	○	◎	○	○	○	◎	○	○	○	◎
RES	8,9	○	○		○	○	X	○	○	○	○	○	○	○	○	○
SS1/ SS2/ SS3/ SS4	10,11 12,13 14,15 16,17	○	X	○		X	X	X	○	○	○	○	○	X	○	X
JOG	18,19	○	X	○	◎		X	X	○	◎	○	X	○	X	○	X
EXT	20,21	◎	○	◎	◎	◎		◎	○	○	○	◎	○	○	○	◎
DB	22,23	◎	X	○	◎	◎	X		○	◎	○	◎	○	X	○	X
AD2/ VF2/ OCS2	24,25 28,29 32,33	○	○	○	○	○	○	○		○	○	○	○	○	○	○
PID/ IDC/ PIDSW	36,37 52,53 54,55	○	○	○	○	X	○	X	○		○	○	○	○	○	○
SCLC/ FMTB/ CMTB	48,49 106,107 108,109	○	○	○	○	○	○	○	○	○		○	○	○	○	○
HD	50,51	○	X	○	○	X	X	X	○	○	○		○	X	○	X
UP/ DWN/ CLR	88,89 90,91 92,93	○	○	○	○	○	○	○	○	○	○	○		○	○	○
FRR	96,97	◎	○	○	◎	◎	○	◎	○	○	○	◎	○		○	◎
PWE/ PWP	110,111 200,201	○	○	○	○	○	○	○	○	○	○	○	○	○		○
FST	122,123	◎	X	○	◎	◎	X	◎	○	○	○	◎	○	X	○	

◎ Priority ○ Enabled X Disabled

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11.7   Output Terminal Function

It can be assigned the function No. in the following table to parameter $F130$ to $F138$, $F157$, $F158$.

- Table of output terminal functions 1

Function No.	Code	Function	Action	Reference
0	LL	Frequency lower limit	ON: Output frequency is more than LL OFF: Output frequency is LL or less	5.4
1	LLN	Inversion of frequency lower limit	Inversion of LL	
2	UL	Frequency upper limit	ON: Output frequency is UL or more OFF: Output frequency is less than UL	
3	ULN	Inversion of frequency upper limit	Inversion of UL	
4	LOW	Low-speed detection signal	ON: Output frequency is $F100$ or more OFF: Output frequency is less than $F100$	6.5.1 7.2.2
5	LOWN	Inversion of low-speed detection signal	Inversion of LOW	
6	RCH	Output frequency attainment signal (acceleration/deceleration completed)	ON: Output frequency is within command frequency ± $F102$ OFF: Output frequency is more than command frequency ± $F102$	6.5.2 7.2.2
7	RCHN	Inversion of output frequency attainment signal (inversion of acceleration/deceleration completed)	Inversion of RCH	
8	RCHF	Set frequency attainment signal	ON: Output frequency is within $F101 \pm F102$ OFF: Output frequency is more than $F101 \pm F102$	6.5.3
9	RCHFN	Inversion of set frequency attainment signal	Inversion of RCHF	
10	FL	Fault signal (trip output)	ON: Inverter tripped OFF: Inverter not tripped	7.2.2
11	FLN	Inversion of fault signal (inversion of trip output)	Inversion of FL	
14	POC	Over-current detection pre-alarm	ON: Output current is $F601$ or more OFF: Output current is less than $F601$	6.29.2
15	POCN	Inversion of over-current detection pre-alarm	Inversion of POC	
16	POL	Overload detection pre-alarm	ON: $F657$(%) or more of calculated value of overload protection level OFF: Less than $F657$(%) of calculated value of overload protection level	5.6
17	POLN	Inversion of overload detection pre-alarm	Inversion of POL	
20	POH	Overheat detection pre-alarm	ON: Approx. 95°C or more of IGBT element OFF: Less than approx. 95°C of IGBT element (90°C or less after detection is turned on)	7.2.2
21	POHN	Inversion of overheat detection pre-alarm	Inversion of POH	
22	POP	Overvoltage detection pre-alarm	ON: Overvoltage limit in operation OFF: Overvoltage detection canceled	6.19.5
23	POPN	Inversion of overvoltage detection pre-alarm	Inversion of POP	
24	MOFF	Power circuit undervoltage detection	ON: Power circuit undervoltage (MOFF) detected OFF: Undervoltage detection canceled	6.29.13
25	MOFFN	Inversion of power circuit undervoltage detection	Inversion of MOFF	
26	UC	Small current detection	ON: After output current comes to $F611$ or less, value of less than $F611+F609$ for $F612$ set time OFF: Output current is more than $F611$ ($F611+F609$ or more after detection turns on)	6.29.7
27	UCN	Inversion of small current detection	Inversion of UC	
28	OT	Over-torque detection	ON: After torque comes to $F616$ or more, value of more than $F616-F619$ for $F618$ set time OFF: Torque is less than $F616$ ($F616-F619$ or less after detection turns on)	6.29.10
29	OTN	Inversion of over-torque detection	Inversion of OT	

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- Table of output terminal functions 2

Function No.	Code	Function	Action	Reference
30	POLR	Braking resistor overload pre-alarm	ON: 50% or more of calculated value of $F\,3\,0\,9$ set overload protection level OFF: Less than 50% of calculated value of $F\,3\,0\,9$ set overload protection level	6.19.4
31	POLRN	Inversion of braking resistor overload pre-alarm	Inversion of POLR	
40	RUN	Run/stop	ON: While operation frequency is output or DC braking is in operation ($d\,b$) OFF: Operation stopped	7.2.2
41	RUNN	Inversion of run/stop	Inversion of RUN	
42	HFL	Serious failure	ON: At trip *2 OFF: Other than those trip above	
43	HFLN	Inversion of serious failure	Inversion of HFL	
44	LFL	Light failure	ON: At trip ($0C\,1\sim3, 0P\,1\sim3, 0H, 0L\,1\sim3, 0Lr$) OFF: Other than those trip above	
45	LFLN	Inversion of light failure	Inversion of LFL	
50	FAN	Cooling fan ON/OFF	ON: Cooling fan is in operation OFF: Cooling fan is off operation	6.29.11
51	FANN	Inversion of cooling fan ON/OFF	Inversion of FAN	
52	JOG	In jogging operation	ON: In jogging operation OFF: Other than jogging operation	6.14
53	JOGN	Inversion of in jogging operation	Inversion of JOG	
54	JBM	Operation panel / terminal block operation	ON: At terminal block operation command OFF: Other than those operation above	6.2.1
55	JBMN	Inversion of operation panel/terminal block operation	Inversion of JBM	
56	COT	Cumulative operation time alarm	ON: Cumulative operation time is $F\,6\,2\,1$ or more OFF: The cumulative operation time is less than $F\,6\,2\,1$	6.29.12
57	COTN	Inversion of cumulative operation time alarm	Inversion of COT	
58	COMOP	Communication option communication error	ON: Communication error of communication option occurs OFF: Other than those above	6.38
59	COMOPN	Inversion of communication option communication error	Inversion of COMOP	
60	FR	Forward/reverse run	ON: Reverse run OFF: Forward run (Operation command state is output while motor operation is stopped. No command is to OFF.)	7.2.2
61	FRN	Inversion of forward/reverse run	Inversion of FR	
62	RDY1	Ready for operation 1	ON: Ready for operation (with ST / RUN) OFF: Other than those above	
63	RDY1N	Inversion of ready for operation 1	Inversion of RDY1	
64	RDY2	Ready for operation 2	ON: Ready for operation (without ST / RUN) OFF: Other than those above	
65	RDY2N	Inversion of ready for operation 2	Inversion of RDY2	
68	BR	Brake release	ON: Brake exciting signal OFF: Brake releasing signal	6.22
69	BRN	Inversion of brake release	Inversion of BR	

70	PAL	Pre-alarm	ON: One of the following is turned on
			    ON POL, POHR, POT, MOFF, UC, OT, LL stop, COT, and momentary power failure deceleration stop.
			    Or $C, P, 0r, H$ issues an alarm
			OFF: Other than those above
				7.2.2

71	PALN	Inversion of pre-alarm	Inversion of PAL	
78	COME	RS485 communication error	ON: Communication error occurred OFF: Communication works	6.38
79	COMEN	Inversion of RS485 communication error	Inversion of COME	

*2: At trip $0CL, 0CA, EPH\,1, EPH0, 0t, 0t2, 0tC3, UtC3, 0H2, E, EEP\,1\sim3, Err2\sim5, UC, UP\,1,$
$Etn, Etn\,1\sim3, EF2, PrF, EtYP, E-13, E-18\sim21, E-23, E-26, E-32, E-37, E-39.$

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- Table of output terminal functions 3

Function No.	Code	Function	Action	Reference
92	DATA1	Designated data output 1	ON: bit0 of FA50 is ON OFF: bit0 of FA50 is OFF	6.38
93	DATA1N	Inversion of designated data output 1	Inversion of DATA1	
94	DATA2	Designated data output 2	ON: bit1 of FA50 is ON OFF: bit1 of FA50 is OFF	
95	DATA2N	Inversion of designated data output 2	Inversion of DATA2	
106	LLD	Light load output	ON: Less than heavy load torque ($F335 \sim F338$) OFF: heavy load torque ($F335 \sim F338$) or more	6.21
107	LLDN	Inversion of light load output	Inversion of LLD	
108	HLD	Heavy load output	ON: Heavy load torque ($F335 \sim F338$) or more OFF: Less than heavy load torque ($F335 \sim F338$)	
109	HLDN	Inversion of heavy load output	Inversion of HLD	
120	LLS	Lower limit frequency stop	ON: Lower limit frequency continuous operation OFF: Other than those above	6.13
121	LLSN	Inversion of lower limit frequency stop	Inversion of LLS	
122	KEB	Power failure synchronized operation	ON: Power failure synchronized operation OFF: Other than those above	6.19.2
123	KEBN	Inversion of power failure synchronized operation	Inversion of KEB	
124	TVS	Traverse in progress	ON: Traverse in progress OFF: Other than those above	6.40
125	TVSN	Inversion of traverse in progress	Inversion of TVS	
126	TVSD	Traverse deceleration in progress	ON: Traverse deceleration in progress OFF: Other than those above	
127	TVSDN	Inversion of traverse deceleration in progress	Inversion of TVSD	
128	LTA	Parts replacement alarm	ON: Any one of cooling fan, control board capacitor, or main circuit capacitor reaches parts replacement time OFF: Any one of cooling fan, control board capacitor, or main circuit capacitor does not reach parts replacement time	6.29.15
129	LTAN	Inversion of parts replacement alarm	Inversion of LTA	
130	POT	Over-torque detection pre-alarm	ON: Torque current is 70% of $F616$ setting value or more OFF: Torque current is less than $F616 \times 70\% - F619$	6.29.10
131	POTN	Inversion of over-torque detection pre-alarm	Inversion of POT	
132	FMOD	Frequency setting mode selection 1/2	ON: Select frequency setting mode selection 2 ($F207$) OFF: Select frequency setting mode selection 1 ($FN\Omega d$)	5.8
133	FMODN	Inversion of frequency setting mode selection 1/2	Inversion of FMOD	
136	FLC	Panel / remote selection	ON: Operation command or panel OFF: Other than those above	6.2.1
137	FLCN	Inversion of panel / remote selection	Inversion of FLC	
138	FORCE	Forced continuous operation in progress	ON: Forced continuous operation in progress OFF: Other than those above	6.30
139	FORCEN	Inversion of forced continuous operation in progress	Inversion of FORCE	
140	FIRE	Specified frequency operation in progress	ON: Specified Frequency operation in progress OFF: Other than those above	
141	FIREN	Inversion of specified frequency operation in progress	Inversion of FIRE	

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