

5.2 Hata veya Alarm Gösterge Listesi

Parametre Ünitesi		Açıklama	İlgili Sayfa
Hata Mesajı	E---	E---	Arıza geçmişi
	HOLD	HOLD	Parametre ünitesi kilidi
	LOCd	LOCd	Şifre kilitle
	Er1 to Er4	Er1 Er2 Er3 Er4	Parametre yazma hatası
	Err.	Err.	Inverter reset
Uyarı	OL	OL	İstenmeyen duruş engeli (aşırı akım)
	oL	oL	İstenmeyen duruş engeli (aşırı gerilim)
	rb	RB	Rejeneratif fren ön alarmı
	rH	TH	Elektronik termik röle ön alarmı
	PS	PS	PU stop
	nF	MT	Bakım sinyal çıkışı
	Uv	UV	Düşük gerilim
	SA	SA	Güvenli duruş
	Alarm	F _n	FN
Arıza	E.OC1	E.OC1	Hızlanma sırasında aşırı akım duruşu
	E.OC2	E.OC2	Sabit hız sırasında aşırı akım duruşu
	E.OC3	E.OC3	Yavaşlama veya durma sırasında aşırı akım duruşu
	E.OV1	E.OV1	Hızlanma anında rejeneratif aşırı gerilim duruşu
	E.OV2	E.OV2	Sabit hızda rejeneratif aşırı gerilim duruşu
	E.OV3	E.OV3	Yavaşlama ya da durma sırasında rejeneratif aşırı gerilim duruşu
	E.THT	E.THT	Inverter aşırı yük (elektronik termik röle fonksiyonu)
	E.THM	E.THM	Motor aşırı yük kapaması (elektronik termik röle fonksiyonu)
	E.FIn	E.FIN	Soğutucu aşırı ısınma

Parametre Ünitesi		Açıklama	İlgili Sayfa
EILF	E.ILF *	Giriş faz kaybı	260
E.OLT	E.OLT	Akım sınırlama duruşu	260
E. bE	E. BE	Fren transistör alarmı	260
E. GF	E.GF	Çıkış topraklama hatası aşırı akım koruması	260
E. LF	E.LF	Çıkış faz hata koruması	260
E.OHT	E.OHT	Harici termik röle fonksiyonu	261
E.PTC	E.PTC*	PTC termistörünün çalışması	261
E. PE	E. PE	Parametre ünitesi hafıza arızası	261
E.PUE	E.PUE	Parametre ünitesi bağlı değil	261
E. rEr	E.RET	Alarm tekrar çalışma sayıcısı doldu	261
E. S	E.5	CPU arızası	262
E.CPU	E.CPU		262
E.CDO	E.CDO*	Çıkış akımı saptama değeri aşıldı	262
E.IOH	E.IOH *	Ani akım sınırlandırma devresi arızası	262
E.AIE	E.AIE *	Analog giriş hatası	262
E.SAF	E.SAF *	Güvenlik devresi hatası	262

* FR-PU04 parametre ünitesi üzerinde (E.ILF), (E.PTC), (E.CDO), (E.IOH), (E.AIE) veya (E.SAF) arızalarından biri oluştuğunda "Fault 14" görüntülenir.

Gösterge	Anlamı
A	A
b	B
C	C
d	D
E	E
F	F
G	G
H	H
I	I
J	J
L	L



Gösterge	Anlamı
n	M
n	N
O	O
o	o
P	P
S	S
r	T
U	U
v	V
r	r
-	-

Gösterge	Anlamı
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

5.3 Causes and corrective actions

(1) Error message

A message regarding operational troubles is displayed. Output is not shut off.

Operation panel indication	HOLD	HOLD
Name	Operation panel lock	
Description	Operation lock mode is set. Operation other than  is invalid. (Refer to page 244.)	
Check point	—	
Corrective action	Press  for 2s to release lock.	

Operation panel indication	LOCD	LOCD
Name	Password locked	
Description	Password function is active. Display and setting of parameter is restricted.	
Check point	—	
Corrective action	Enter the password in <i>Pr. 297 Password lock/unlock</i> to unlock the password function before operating. (Refer to page 168.)	

Operation panel indication	Er1	Er 1
Name	Write disable error	
Description	<ul style="list-style-type: none"> You attempted to make parameter setting when <i>Pr. 77 Parameter write selection</i> has been set to disable parameter write. Frequency jump setting range overlapped. The PU and inverter cannot make normal communication. 	
Check point	<ul style="list-style-type: none"> Check the setting of <i>Pr. 77 Parameter write selection</i>. (Refer to page 166.) Check the settings of <i>Pr. 31 to Pr. 36 (frequency jump)</i>. (Refer to page 89.) Check the connection of the PU and inverter. 	

Operation panel indication	Er2	Er 2
Name	Write error during operation	
Description	When parameter write was performed during operation with a value other than "2" (writing is enabled independently of operation status in any operation mode) is set in <i>Pr. 77</i> and the STF (STR) is ON.	
Check point	<ul style="list-style-type: none"> Check the <i>Pr. 77</i> setting. (Refer to page 166.) Check that the inverter is not operating. 	
Corrective action	<ul style="list-style-type: none"> Set "2" in <i>Pr. 77</i>. After stopping operation, make parameter setting. 	

Operation panel indication	Er3	Er 3
Name	Calibration error	
Description	Analog input bias and gain calibration values are too close.	
Check point	Check the settings of <i>C3, C4, C6 and C7 (calibration functions)</i> . (Refer to page 158.)	

Operation panel indication	Er4	Er 4
Name	Mode designation error	
Description	<ul style="list-style-type: none"> Appears if a parameter setting is attempted in the External or NET operation mode with <i>Pr. 77</i> ≠ "2". Appears if a parameter setting is attempted when the command source is not at the operation panel. 	
Check point	<ul style="list-style-type: none"> Check that operation mode is PU operation mode. Check the <i>Pr. 77</i> setting. (Refer to page 166.) Check if a parameter unit (FR-PU04/FR-PU07) is connected when <i>Pr. 551</i> = "9999 (initial setting)." Check the <i>Pr. 551</i> setting. 	
Corrective action	<ul style="list-style-type: none"> After setting the operation mode to the "PU operation mode", make parameter setting. (Refer to page 170.) After setting <i>Pr. 77</i> = "2", make parameter setting. Disconnect the parameter unit (FR-PU04/FR-PU07), and make parameter setting. After setting <i>Pr. 551</i> = "4", make parameter setting. (Refer to page 179.) 	

Operation panel indication	Err.	Err.
Name	Inverter reset	
Description	<ul style="list-style-type: none"> • Executing reset using RES signal, or reset command from communication or PU • Displays at powering OFF. 	
Corrective action	<ul style="list-style-type: none"> • Turn OFF the reset command 	




(2) Warning

When a warning occurs, the output is not shut off.

Operation panel indication	OL	OL	FR-PU04 FR-PU07	OL
Name	Stall prevention (overcurrent)			
Description	During acceleration	When the output current of the inverter exceeds the stall prevention operation level (<i>Pr. 22 Stall prevention operation level</i> , etc.), this function stops the increase in frequency until the overload current decreases to prevent the inverter from resulting in overcurrent trip. When the overload current has reduced below stall prevention operation level, this function increases the frequency again.		
	During constant-speed operation	When the output current of the inverter exceeds the stall prevention operation level (<i>Pr. 22 Stall prevention operation level</i> , etc.), this function reduces frequency until the overload current decreases to prevent the inverter from resulting in overcurrent trip. When the overload current has reduced below stall prevention operation level, this function increases the frequency up to the set value.		
	During deceleration	When the output current of the inverter exceeds the stall prevention operation level (<i>Pr. 22 Stall prevention operation level</i> , etc.), this function stops the decrease in frequency until the overload current decreases to prevent the inverter from resulting in overcurrent trip. When the overload current has decreased below stall prevention operation level, this function decreases the frequency again.		
Check point	<ul style="list-style-type: none"> • Check that the <i>Pr. 0 Torque boost</i> setting is not too large. • Check that the <i>Pr. 7 Acceleration time</i> and <i>Pr. 8 Deceleration time</i> settings are not too small. • Check that the load is not too heavy. • Are there any failure in peripheral devices? • Check that the <i>Pr. 13 Starting frequency</i> is not too large. • Check that the <i>Pr. 22 Stall prevention operation level</i> is appropriate 			
Corrective action	<ul style="list-style-type: none"> • Increase or decrease the <i>Pr. 0 Torque boost</i> setting by 1% and check the motor status. (<i>Refer to page 79.</i>) • Set a larger value in <i>Pr. 7 Acceleration time</i> and <i>Pr. 8 Deceleration time</i>. (<i>Refer to page 101.</i>) • Reduce the load weight. • Try General-purpose magnetic flux vector control. • Change the <i>Pr. 14 Load pattern selection</i> setting. • Set stall prevention operation current in <i>Pr. 22 Stall prevention operation level</i>. (The initial value is 150%.) The acceleration/deceleration time may change. Increase the stall prevention operation level with <i>Pr. 22 Stall prevention operation level</i>, or disable stall prevention with <i>Pr. 156 Stall prevention operation selection</i>. (Operation at OL occurrence can be selected using <i>Pr. 156.</i>) 			

Operation panel indication	oL	oL	FR-PU04 FR-PU07	oL
Name	Stall prevention (overvoltage)			
Description	During deceleration	<ul style="list-style-type: none"> • If the regenerative energy of the motor becomes excessive to exceed the regenerative energy consumption capability, this function stops the decrease in frequency to prevent overvoltage trip. As soon as the regenerative energy has reduced, deceleration resumes. • If the regenerative energy of the motor becomes excessive when regeneration avoidance function is selected (<i>Pr. 882 = 1</i>), this function increases the speed to prevent overvoltage trip. (<i>Refer to page 231.</i>) 		
		<ul style="list-style-type: none"> • Check for sudden speed reduction. • Check that regeneration avoidance function (<i>Pr. 882, Pr. 883, Pr. 885, Pr. 886</i>) is used. (<i>Refer to page 231.</i>) 		
Check point	<ul style="list-style-type: none"> • Check for sudden speed reduction. • Check that regeneration avoidance function (<i>Pr. 882, Pr. 883, Pr. 885, Pr. 886</i>) is used. (<i>Refer to page 231.</i>) 			
Corrective action	The deceleration time may change. Increase the deceleration time using <i>Pr. 8 Deceleration time</i> .			

7 Causes and corrective actions

Operation panel indication	PS	PS	FR-PU04 FR-PU07	PS
Name	PU stop			
Description	Stop with  of the PU is set in Pr. 75 Reset selection/disconnected PU detection/PU stop selection. (For Pr. 75 refer to page 163.)			
Check point	Check for a stop made by pressing  of the operation panel.			
Corrective action	Turn the start signal OFF and release with  .			

Operation panel indication	RB	rb	FR-PU04 FR-PU07	RB
Name	Regenerative brake pre-alarm			
Description	Appears if the regenerative brake duty reaches or exceeds 85% of the Pr. 70 Special regenerative brake duty value. When the setting of Pr. 70 Special regenerative brake duty is the initial value (Pr. 70 = "0"), this warning does not occur. If the regenerative brake duty reaches 100%, a regenerative overvoltage (E. OV[]) occurs. The RBP signal can be simultaneously output with the [RB] display. For the terminal used for the RBP signal output, assign the function by setting "7 (positive logic) or 107 (negative logic)" in Pr. 190, Pr. 192 or Pr. 197 (output terminal function selection). (Refer to page 124.)			
Check point	<ul style="list-style-type: none"> • Check that the brake resistor duty is not high. • Check that the Pr. 30 Regenerative function selection and Pr. 70 Special regenerative brake duty settings are correct. 			
Corrective action	<ul style="list-style-type: none"> • Increase the deceleration time. • Check that the Pr. 30 Regenerative function selection and Pr. 70 Special regenerative brake duty settings. 			

Operation panel indication	TH	TH	FR-PU04 FR-PU07	TH
Name	Electronic thermal relay function pre-alarm			
Description	Appears when the accumulated electronic thermal value reaches 85% of the Pr.9 setting. When the accumulated electronic thermal value reaches 100% of the Pr.9 setting, the protection circuit is activated and the inverter is shut off. The THP signal can be simultaneously output with the [TH] display. For the terminal used for THP signal output, assign the function by setting "8 (positive logic) or 108 (negative logic)" in Pr. 190, Pr. 192 or Pr. 197 (output terminal function selection). (Refer to page 124.)			
Check point	<ul style="list-style-type: none"> • Check for large load or sudden acceleration. • Is the Pr. 9 Electronic thermal O/L relay setting is appropriate? (Refer to page 105.) 			
Corrective action	<ul style="list-style-type: none"> • Reduce the load and frequency of operation. • Set an appropriate value in Pr. 9 Electronic thermal O/L relay. (Refer to page 105.) 			

Operation panel indication	MT	MT	FR-PU04 FR-PU07	— MT
Name	Maintenance signal output			
Description	Indicates that the cumulative energization time of the inverter has reached a given time. When the setting of Pr. 504 Maintenance timer alarm output set time is the initial value (Pr. 504 = "9999"), this warning does not occur.			
Check point	The Pr. 503 Maintenance timer setting is larger than the Pr. 504 Maintenance timer alarm output set time setting. (Refer to page 238.)			
Corrective action	Setting "0" in Pr. 503 Maintenance timer erases the signal.			

Operation panel indication	UV	UV	FR-PU04 FR-PU07	—
Name	Undervoltage			
Description	If the power supply voltage of the inverter decreases, the control circuit will not perform normal functions. In addition, the motor torque will be insufficient and/or heat generation will increase. To prevent this, if the power supply voltage decreases below about 115VAC (about 230VAC for 400V class), this function stops the inverter output and displays "UV". An alarm is reset when the voltage returns to normal.			
Check point	Check that the power supply voltage is normal.			
Corrective action	Check the power supply system equipment such as power supply.			

Operation panel indication	SA	SA	FR-PU04 FR-PU07	—
Name	Safety stop			
Description	Appears when safety stop function is activated (during output shutoff).			
Check point	Check if the shorting wire between S1 and SC or between S2 and SC is disconnected when not using the safety stop function.			
Corrective action	<ul style="list-style-type: none"> When not using the safety stop function, short across terminals S1 and SC and across S2 and SC with shorting wire for the inverter to run. If "SA" is indicated when across S1 and SC and across S2 and SC are both shorted while using the safety stop function (drive enabled), internal failure might be the cause. Check the wiring of terminals S1, S2 and SC and contact your sales representative if the wiring has no fault. 			

(3) Alarm

When an alarm occurs, the output is not shut off. You can also output an alarm signal by making parameter setting. (Set "98" in Pr. 190, Pr. 192 or Pr. 197 (output terminal function selection). Refer to page 124.)

Operation panel indication	FN	F _n	FR-PU04 FR-PU07	FN
Name	Fan alarm			
Description	For the inverter that contains a cooling fan, "F _n " appears on the operation panel when the cooling fan stops due to an alarm or different operation from the setting of Pr. 244 Cooling fan operation selection.			
Check point	Check the cooling fan for an alarm.			
Corrective action	Check for fan alarm. Please contact your sales representative.			


(4) Fault


When a fault occurs, the inverter output is shut off and a fault signal is output.


Operation panel indication	E.OC1	E.OC 1	FR-PU04 FR-PU07	OC During Acc
Name	Overcurrent trip during acceleration			
Description	When the inverter output current reaches or exceeds approximately 200% of the rated current during acceleration, the protective circuit is activated and the inverter output is shut off.			
Check point	<ul style="list-style-type: none"> Check for sudden acceleration. Check that the downward acceleration time is not long for the lift. Check for output short-circuit/ground fault. Check if the stall prevention operation level is set too high. Check if the fast-response current limit operation is disabled. Check that regeneration is not performed frequently. (Check that the output voltage becomes larger than the V/F reference value at regeneration and overcurrent occurs due to increase in motor current.) 			
Corrective action	<ul style="list-style-type: none"> Increase the acceleration time. (Shorten the downward acceleration time for the lift.) When "E.OC1" is always lit at starting, disconnect the motor once and start the inverter. If "E.OC1" is still lit, contact your sales representative. Check the wiring to make sure that output short circuit/ground fault does not occur. Lower the setting of stall prevention operation level. Activate the fast-response current limit operation. (Refer to page 84.) Set base voltage (rated voltage of the motor, etc.) in Pr. 19 Base frequency voltage. (Refer to page 90.) 			


Operation panel indication	E.OC2	E.OC 2	FR-PU04 FR-PU07	Stedy Spd OC
Name	Overcurrent trip during constant speed			
Description	When the inverter output current reaches or exceeds approximately 200% of the rated current during constant speed operation, the protective circuit is activated and the inverter output is shut off.			
Check point	<ul style="list-style-type: none"> Check for sudden load change. Check for output short-circuit/ground fault. Check if the stall prevention operation level is set too high. Check if the fast-response current limit operation is disabled. 			
Corrective action	<ul style="list-style-type: none"> Keep load stable. Check the wiring to make sure that output short circuit/ground fault does not occur. Lower the setting of stall prevention operation level. Activate the fast-response current limit operation. (Refer to page 84.) 			


7 Causes and corrective actions

Operation panel indication	E.OC3		FR-PU04 FR-PU07	OC During Dec
Name	Overcurrent trip during deceleration or stop			
Description	When the inverter output current reaches or exceeds approximately 200% of the inverter rated current during deceleration (other than acceleration or constant speed), the protective circuit is activated and the inverter output is shut off.			
Check point	<ul style="list-style-type: none"> • Check for sudden speed reduction. • Check for output short-circuit/ground fault. • Check for too fast operation of the motor's mechanical brake. • Check if the stall prevention operation level is set too high. • Check if the fast-response current limit operation is disabled. 			
Corrective action	<ul style="list-style-type: none"> • Increase the deceleration time. • Check the wiring to make sure that output short circuit/ground fault does not occur. • Check the mechanical brake operation. • Lower the setting of stall prevention operation level. • Activate the fast-response current limit operation. (Refer to page 84.) 			


Operation panel indication	E.OV1		FR-PU04 FR-PU07	OV During Acc
Name	Regenerative overvoltage trip during acceleration			
Description	If regenerative energy causes the inverter's internal main circuit DC voltage to reach or exceed the specified value, the protective circuit is activated and the inverter output is shut off. The circuit may also be activated by a surge voltage produced in the power supply system.			
Check point	<ul style="list-style-type: none"> • Check for too slow acceleration. (e.g. during downward acceleration in vertical lift load) • Check that the setting of Pr. 22 Stall prevention operation level is not too small. • Check if the stall prevention operation is frequently activated in an application with a large load inertia. 			
Corrective action	<ul style="list-style-type: none"> • Decrease the acceleration time. • Use regeneration avoidance function (Pr. 882, Pr. 883, Pr. 885, Pr. 886). (Refer to page 231.) • Set the Pr.22 Stall prevention operation level correctly. • Set Pr.154 Voltage reduction selection during stall prevention operation = "11". 			

Operation panel indication	E.OV2		FR-PU04 FR-PU07	Stedy Spd OV
Name	Regenerative overvoltage trip during constant speed			
Description	If regenerative energy causes the inverter's internal main circuit DC voltage to reach or exceed the specified value, the protective circuit is activated to stop the inverter output. The circuit may also be activated by a surge voltage produced in the power supply system.			
Check point	<ul style="list-style-type: none"> • Check for sudden load change. • Check that the setting of Pr. 22 Stall prevention operation level is not too small. • Check if the stall prevention operation is frequently activated in an application with a large load inertia. 			
Corrective action	<ul style="list-style-type: none"> • Keep load stable. • Use regeneration avoidance function (Pr. 882, Pr. 883, Pr. 885, Pr. 886). (Refer to page 231.) • Use the brake resistor, brake unit or power regeneration common converter (FR-CV) as required. • Set the Pr.22 Stall prevention operation level correctly. • Set Pr.154 Voltage reduction selection during stall prevention operation = "11". 			


Operation panel indication	E.OV3		FR-PU04 FR-PU07	OV During Dec
Name	Regenerative overvoltage trip during deceleration or stop			
Description	If regenerative energy causes the inverter's internal main circuit DC voltage to reach or exceed the specified value, the protective circuit is activated to stop the inverter output. The circuit may also be activated by a surge voltage produced in the power supply system.			
Check point	<ul style="list-style-type: none"> • Check for sudden speed reduction. • Check if the stall prevention operation is frequently activated in an application with a large load inertia. 			
Corrective action	<ul style="list-style-type: none"> • Increase the deceleration time. (Set the deceleration time which matches the moment of inertia of the load) • Make the brake cycle longer. • Use regeneration avoidance function (Pr. 882, Pr. 883, Pr. 885, Pr. 886). (Refer to page 231.) • Use the brake resistor, brake unit or power regeneration common converter (FR-CV) as required. • Set Pr.154 Voltage reduction selection during stall prevention operation = "11". 			

Operation panel indication	E.THT		FR-PU04 FR-PU07	Inv. Overload
Name	Inverter overload trip (electronic thermal O/L relay function) *1			
Description	If the temperature of the output transistor element exceeds the protection level under the condition that a current not less than the inverter rated current flows and overcurrent trip does not occur (200% or less), the electronic thermal relay activates to stop the inverter output. (Overload capacity 150% 60s, 200% 0.5s)			
Check point	<ul style="list-style-type: none"> • Check that acceleration/deceleration time is not too short. • Check that torque boost setting is not too large (small). • Check that load pattern selection setting is appropriate for the load pattern of the using machine. • Check the motor for use under overload. • Check for too high surrounding air temperature. 			
Corrective action	<ul style="list-style-type: none"> • Increase acceleration/deceleration time. • Adjust the torque boost setting. • Set the load pattern selection setting according to the load pattern of the using machine. • Reduce the load weight. • Set the surrounding air temperature to within the specifications. 			

*1 Resetting the inverter initializes the internal thermal integrated data of the electronic thermal relay function.

Operation panel indication	E.THM		FR-PU04 FR-PU07	Motor Ovrload
Name	Motor overload trip (electronic thermal O/L relay function) *2			
Description	The electronic thermal relay function in the inverter detects motor overheat due to overload or reduced cooling capability during low-speed operation, and pre-alarm (TH display) is output when the integrated value reaches 85% of the Pr. 9 Electronic thermal O/L relay setting, and the protection circuit is activated to stop the inverter output when the integrated value reaches the specified value. When running a special motor such as a multi-pole motor or multiple motors, provide a thermal relay on the inverter output side since such motor(s) cannot be protected by the electronic thermal relay function.			
Check point	<ul style="list-style-type: none"> • Check the motor for use under overload. • Check that the setting of Pr. 71 Applied motor for motor selection is correct. (Refer to page 108.) • Check that stall prevention operation setting is correct. 			
Corrective action	<ul style="list-style-type: none"> • Reduce the load weight. • For a constant-torque motor, set the constant-torque motor in Pr. 71 Applied motor. • Check that stall prevention operation setting is correct. (Refer to page 84.) 			

*2 Resetting the inverter initializes the internal thermal integrated data of the electronic thermal relay function.

Operation panel indication	E.FIN		FR-PU04 FR-PU07	H/Sink O/Temp
Name	Heatsink overheat			
Description	If the heatsink overheats, the temperature sensor is actuated and the inverter output is shut off. The FIN signal can be output when the temperature becomes approximately 85% of the heatsink overheat protection operation temperature. For the terminal used for the FIN signal output, assign the function by setting "26 (positive logic) or 126 (negative logic)" in any of Pr. 190, Pr. 192 or Pr. 197 (output terminal function selection). (Refer to page 124.)			
Check point	<ul style="list-style-type: none"> • Check for too high surrounding air temperature. • Check for heatsink clogging. • Check that the cooling fan is not stopped (Check that "F n" is not displayed on the operation panel). 			
Corrective action	<ul style="list-style-type: none"> • Set the surrounding air temperature to within the specifications. • Clean the heatsink. • Replace the cooling fan. 			

Operation panel indication	E.ILF	E I L F	FR-PU04 FR-PU07	Fault 14 Input phase loss
Name	Input phase loss *			
Description	Inverter output is shut off when function valid setting (=1) is selected in <i>Pr. 872 Input phase loss protection selection</i> and one phase of the three phase power input is lost. (Refer to page 151.) It may function if phase-to-phase voltage of the three-phase power input becomes largely unbalanced.			
Check point	<ul style="list-style-type: none"> Check for a break in the cable for the three-phase power supply input. Check that phase-to-phase voltage of the three-phase power input is not largely unbalanced. 			
Corrective action	<ul style="list-style-type: none"> Wire the cables properly. Repair a break portion in the cable. Check the <i>Pr. 872 Input phase loss protection selection</i> setting. Set <i>Pr. 872</i> = "0" (without input phase loss protection) when three-phase input voltage is largely unbalanced. 			

* Available only for three-phase power input specification model.

Operation panel indication	E.OLT	E.O L T	FR-PU04 FR-PU07	Still Prev STP
Name	Stall prevention stop			
Description	If the output frequency has fallen to 1Hz by stall prevention operation and remains for 3s, a fault (E.OLT) appears and the inverter output is shut off. OL appears while stall prevention is being activated. E.OLT may not occur if stall prevention (OL) is activated during output phase loss.			
Check point	Check the motor for use under overload. (Refer to page 85.)			
Corrective action	Reduce the load weight. (Check the <i>Pr. 22 Stall prevention operation level</i> setting.)			

Operation panel indication	E.BE	E. b E	FR-PU04 FR-PU07	Br. Cct. Fault
Name	Brake transistor alarm detection			
Description	When a brake transistor alarm has occurred due to the large regenerative energy from the motor etc., the brake transistor alarm is detected and the inverter output is shut off. <u>In this case, the inverter must be powered OFF immediately.</u>			
Check point	<ul style="list-style-type: none"> Reduce the load inertia. Check that the frequency of using the brake is proper. Check that the brake resistor selected is correct. 			
Corrective action	Replace the inverter.			

Operation panel indication	E.GF	E. G F	FR-PU04 FR-PU07	Ground Fault
Name	Output side earth (ground) fault overcurrent at start			
Description	The inverter output is shut off if an earth (ground) fault overcurrent flows at start due to an earth (ground) fault that occurred on the inverter's output side (load side). Whether this protective function is used or not is set with <i>Pr. 249 Earth (ground) fault detection at start</i> .			
Check point	Check for a ground fault in the motor and connection cable.			
Corrective action	Remedy the ground fault portion.			

Operation panel indication	E.LF	E. L F	FR-PU04 FR-PU07	E.LF
Name	Output phase loss			
Description	If one of the three phases (U, V, W) on the inverter's output side (load side) is lost during inverter operation (except during DC injection brake operation and when output frequency is under 1Hz), inverter stops the output. Whether the protective function is used or not is set with <i>Pr.251 Output phase loss protection selection</i> .			
Check point	<ul style="list-style-type: none"> Check the wiring. (Check that the motor is normal.) Check that the capacity of the motor used is not smaller than that of the inverter. 			
Corrective action	<ul style="list-style-type: none"> Wire the cables properly. Check the <i>Pr. 251 Output phase loss protection selection</i> setting. 			

Operation panel indication	E.OHT	E.OHT	FR-PU04 FR-PU07	OH Fault
Name	External thermal relay operation			
Description	If the external thermal relay provided for motor overheat protection or the internally mounted temperature relay in the motor, etc. switches ON (contacts open), the inverter output is stopped. This function is available when "7" (OH signal) is set in any of <i>Pr. 178 to Pr. 182 (input terminal function selection)</i> . When the initial value (without OH signal assigned) is set, this protective function is not available.			
Check point	<ul style="list-style-type: none"> • Check for motor overheating. • Check that the value of 7 (OH signal) is set correctly in any of <i>Pr. 178 to Pr. 182 (input terminal function selection)</i>. 			
Corrective action	<ul style="list-style-type: none"> • Reduce the load and frequency of operation. • Even if the relay contacts are reset automatically, the inverter will not restart unless it is reset. 			

Operation panel indication	E.PTC	E.PTC	FR-PU04 FR-PU07	Fault 14 PTC activated
Name	PTC thermistor operation			
Description	Inverter output is shut off when resistance of PTC thermistor connected between terminal 2 and terminal 10 is more than the value set in <i>Pr. 561 PTC thermistor protection level</i> . This protective function does not function when <i>Pr. 561</i> setting is initial value (<i>Pr. 561</i> = "9999").			
Check point	<ul style="list-style-type: none"> • Check the connection of the PTC thermistor. • Check the <i>Pr. 561 PTC thermistor protection level</i> setting. • Check the motor for operation under overload. 			
Corrective action	Reduce the load weight.			

Operation panel indication	E.PE	E. PE	FR-PU04 FR-PU07	Corrupt Memry
Name	Parameter storage device fault (control circuit board)			
Description	Appears when a fault occurred in the stored parameters. (EEPROM fault)			
Check point	Check for too many number of parameter write times.			
Corrective action	Please contact your sales representative. When performing parameter write frequently for communication purposes, set "1" in <i>Pr. 342</i> to enable RAM write. Note that powering OFF returns the inverter to the status before RAM write.			

Operation panel indication	E.PUE	E.PUE	FR-PU04 FR-PU07	PU Leave Out
Name	PU disconnection			
Description	<ul style="list-style-type: none"> • This function stops the inverter output if communication between the inverter and PU is suspended, e.g. the parameter unit (FR-PU04/FR-PU07) is disconnected, when "2", "3", "16" or "17" was set in <i>Pr. 75 Reset selection/disconnected PU detection/PU stop selection</i>. • This function stops the inverter output when communication errors occurred consecutively for more than permissible number of retries when a value other than "9999" is set in <i>Pr. 121 Number of PU communication retries</i> during the RS-485 communication with the PU connector (use <i>Pr. 502 Stop mode selection at communication error</i> to change). • This function also stops the inverter output if communication is broken within the period of time set in <i>Pr. 122 PU communication check time interval</i> during the RS-485 communication with the PU connector. 			
Check point	<ul style="list-style-type: none"> • Check that the parameter unit cable is connected properly. • Check the <i>Pr. 75</i> setting. • Check that RS-485 communication data is correct. And check that the settings of communication parameter at inverter match settings of the computer. • Check that data is transmitted from the computer within a time set in <i>Pr. 122 PU communication check time interval</i>. 			
Corrective action	Connect the parameter unit cable securely. Check the communication data and communication settings. Increase the <i>Pr. 122 PU communication check time interval</i> setting. Or set "9999" (no communication check).			

Operation panel indication	E.RET	E.RET	FR-PU04 FR-PU07	Retry No Over
Name	Retry count excess			
Description	If operation cannot be resumed properly within the number of retries set, this function trips the inverter. This function is available only when <i>Pr. 67 Number of retries at fault occurrence</i> is set. When the initial value (<i>Pr. 67</i> = "0") is set, this protective function does not function.			
Check point	Find the cause of fault occurrence.			
Corrective action	Eliminate the cause of the error preceding this error indication.			

7 Causes and corrective actions

Operation panel indication	E.5	E.5	FR-PU04	Fault 5
	E.CPU	E.CPU	FR-PU07	CPU Fault
Name	CPU fault			
Description	Stops the inverter output if the communication fault of the built-in CPU occurs.			
Check point	Check for devices producing excess electrical noises around the inverter.			
Corrective action	<ul style="list-style-type: none"> Take measures against noises if there are devices producing excess electrical noises around the inverter. Please contact your sales representative. 			

Operation panel indication	E.CDO	E.CDO	FR-PU04	Fault 14
			FR-PU07	OC detect level
Name	Output current detection value exceeded			
Description	This function is activated when the output current exceeds the <i>Pr. 150 Output current detection level setting</i> .			
Check point	Check the settings of <i>Pr. 150 Output current detection level</i> , <i>Pr. 151 Output current detection signal delay time</i> , <i>Pr. 166 Output current detection signal retention time</i> , <i>Pr. 167 Output current detection operation selection</i> . (Refer to page 129.)			

Operation panel indication	E.IOH	E IOH	FR-PU04	Fault 14
			FR-PU07	Inrush overheat
Name	Inrush current limit circuit fault			
Description	This function is activated when the resistor of the inrush current limit circuit overheats. The inrush current limit circuit fault			
Check point	Check that frequent power ON/OFF is not repeated.			
Corrective action	Configure a circuit where frequent power ON/OFF is not repeated. If the problem still persists after taking the above measure, please contact your sales representative.			

Operation panel indication	E.AIE	E.AIE	FR-PU04	Fault 14
			FR-PU07	Analog in error
Name	Analog input fault			
Description	Appears if voltage(current) is input to terminal 4 when the setting in <i>Pr.267 Terminal 4 input selection</i> and the setting of voltage/current input switch are different.			
Check point	Check the setting of <i>Pr. 267 Terminal 4 input selection</i> and voltage/current input switch. (Refer to page 155.)			
Corrective action	Either give a frequency command by current input or set <i>Pr. 267 Terminal 4 input selection</i> , and voltage/current input switch to voltage input.			

Operation panel indication	E.SAF	E.SAF	FR-PU04	Fault 14
			FR-PU07	Fault E.SAF
Name	Safety circuit fault			
Description	Appears when safety circuit is malfunctioning. Appears when one of the lines between S1 and SC, or between S2 and SC is opened.			
Check point	<ul style="list-style-type: none"> Check if the shorting wire between S1 and SC or between S2 and SC is disconnected when not using the safety stop function. Check that the safety relay module or the connection has no fault when using the safety stop function. 			
Corrective action	<ul style="list-style-type: none"> When not using the safety stop function, short across terminals S1 and SC and across S2 and SC with shorting wire. (Refer to page 29.) When using the safety stop function, check that wiring of terminal S1, S2 and SC is correct and the safety stop input signal from safety relay module is operating properly. Refer to the <i>Safety stop function instruction manual (BCN-A211508-000 for sink-logic safety terminal model, BCN-A211508-005 for source-logic safety terminal model)</i> for causes and countermeasures. 			



NOTE

- If protective functions of E.ILF, E.AIE, E.IOH, E.PTC, E.CDO, E.SAF are activated when using the FR-PU04, "Fault 14" is displayed.
Also when the fault history is checked on the FR-PU04, the display is "E.14".
- If faults other than the above appear, contact your sales representative.