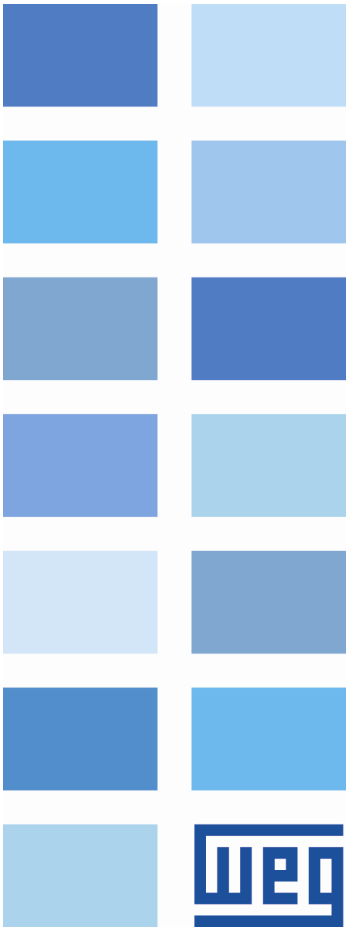
Frequency Inverter

CFW-09

Addendum to the CFW-09 Frequency Inverter Manual

Software Version: V4.40
Language: English



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Series: CFW-09

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The version V4.40 was developed based on the standard version V4.09.

SAFETY NOTICES

Only qualified personnel should plan or implement the installation, start-up, operation and maintenance of this equipment. Personnel must review the entire Manual before attempting to install, operate or troubleshoot the CFW-09.

These personnel must follow all safety instruction included in the Manual and/or defined by local regulations.

Failure to comply with these instructions may result in personnel injury and/or equipment damage.

Information about the new functions on the V4.40 version:

- Special function for mechanical brake logic in parameter P203.
- Fieldbus and Forward Run/Reverse Run operation with mechanical brake logic.
- New incompatibilities for E24.

1 SPECIAL FUNCTION DESCRIPTION FOR THE MECHANICAL BRAKE LOGIC

Parameter	Range [Factory Setting] Unit	Description / Notes
P203 (1) **Special Function Selection**	0 to 2 [0] -	▪ It defines the selection type of special functions: ***Table 6.16:*** *Special function selection* **P203** / **Functions**: 0 Not Used; 1 PID Regulator; 2 Mechanical Brake Logic P203 = 1: ▪ For the special function of PID regulator, refer to detailed description of related parameters (P520 to P535); ▪ When P203 is changed to 1, P265 is changed automatically to 15 (Manual/Auto). P203 = 2: ▪ When P203 is changed to 2, parameters P220, P222, P224, P225, P227, P228, P264, P265, P266, P279 and P313 are automatically changed to functions compatible with the brake logic. ▪ To obtain details on the “Brake Logic” function, refer to the detailed description of parameter P275 to P280 and figure 6.39q; **Note:** parameters that are automatically changed when P203=2 is programmed serve only to help with parametrization of the brake logic function.

Parameter that is affected and modified automatically:

Parameter that affect others when set	Parameter that is affected and modified automatically	Condition where it occurs	
		During the oriented start-up	During normal operation
P203	P220, P222, P223, P224, P225, P226, P227, P228, P237, P263, P265, P279, P313	No	Yes

2 LOGIC FOR THE BRAKE ACTIVATION WHEN DOx/RELAY = 30 OR 31

2.1 DETAILS ABOUT THE OPERATION

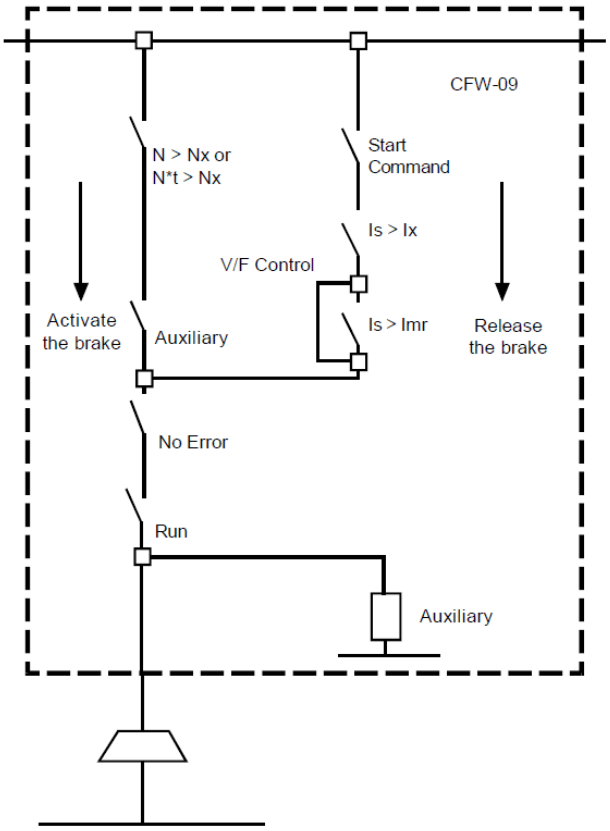

Figure 6.39 q) (cont.): *Details about the operation of the digital and relay output functions*

NOTE!

1) To release the brake (transition from NO to NC), it is performed the comparison in series Is > Ix, Is > Imr, the check of start command (*), be in Run and Without Error;
2) To engage the brake (transition NC to NO), it is performed the comparison by N > Nx ou N*t > Nx;
3) When P202 = 4 (Vector with Encoder) the brake will not engage when the speed pass by zero in the reversal of the rotation direction;
4) The hysteresis used in the comparison N > Nx or N*t > Nx can be adjusted in parameter P287;
5) Programming P203 = 2, some parameters that are used in the brake logic function will be automatically programmed. See details in parameter P203.

(*) The following start parameters are available:

- Start/Stop (via DI1);
- Forward Run/Reverse Run (via DI3 and DI2 or DI4);
- Fieldbus (**).

If another kind of start command – which was not mentioned above – is used together with the brake logic function, E24 will be generated and an incompatibility message will be displayed. See detailed description in table 4.2.

(**) When the start command used is via “Fieldbus”, WEG recommends to program P313=5 (Cause Fatal Error).

2.2 ADDITIONAL NOTES ABOUT THE DIGITAL OUTPUTS FUNCTION

Brake (Speed) – Real Speed
Uses the Real Speed in the comparison of N > Nx to activate the brake.

Brake (Ref.) – Total Speed Reference
Uses the Total Speed Reference in the comparison of N*t > Nx to active the brake.

Note: Nx programmable in P288.

NOTE!
i. For further details, refer to figures 6.39 q), r) and s).
ii. Programming P203=2 some parameters that are used in the brake logic function will be automatically changed. See description of parameter P203.
iii. Only one of the options: Brake (Speed) or Brake (Ref.) must be programmed in the digital or relay outputs. For further details, contact WEG.

3 NEW INCOMPATIBILITIES BETWEEN PARAMETERS - E24

Incompatibilities have been added in the table 4.2. See below:

33) P225 or P228 ≠ 0 and P275 or P276 or P277 or P279 or P280 = 30 or 31 (JOG Function with the Mechanical Brake Logic).

34) P265 or P266 or P267 or P268 or P269 or P270 = 10 and P275 or P276 or P277 or P279 or P280 = 30 or 31 (JOG+ Function with the Mechanical Brake Logic).

35) P265 or P266 or P267 or P268 or P269 or P270 = 11 and P275 or P276 or P277 or P279 or P280 = 30 or 31 (JOG- Function with the Mechanical Brake Logic).

36) P224 or P227 = 0 and P275 or P276 or P277 or P279 or P280 = 30 or 31 (Start/Stop via keypad (HMI) with the Mechanical Brake Logic).

37) P265 or P266 or P267 or P268 or P269 or P270 = 14 and P275 or P276 or P277 or P279 or P280 = 30 or 31 (3 Wire Start/Stop Function with the Mechanical Brake Logic).

38) P265 or P266 or P267 or P268 or P269 or P270 = 8 and P275 or P276 or P277 or P279 or P280 = 30 or 31 (Fast Stop Mode with the Mechanical Brake Logic).

39) P232 = 1 or 2 and P275 or P276 or P277 or P279 or P280 = 30 or 31 (Coast to Stop or Fast Mode with the Mechanical Brake Logic).

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