

MCE TECHNICAL BULLETIN

➤ *Immediate Action Required* ◀

www.mceinc.com

Reference # 153
Route to **Modernization and Service Managers**
From MCE Technical Support Department (916-463-9200 then press “3”)
Date June 22nd 2015
Pages 2

Subject **EMI Disturbance with Serial Communication on KEB F5 Drives**

Equipment KEB F5 Drives with Serial Communication on Motion 4000 (M4000) Controllers

Description KEB F5 drives with serial communication and keypad operator (MCE Part # 11-15-2102-L) software v1.71 (parameter LF.80) with date codes (parameter LF.81) of:

Keypad Software Ver. (LF. 80)	Software Date Code (LF. 81)
1.71	2201.0 (Jan. 22nd 2010) 704.0 (Apr. 7th 2010) 2904.1 (Apr. 29th 2011) 308.1 (Aug. 3rd 2011)

may cause intermittent anomalies during the operation of the elevator caused by high electromagnetic interference (EMI) noise. If the noise disrupts the serial command to the drive at the beginning of the run, very low or high speed gains can be applied to the drive control during pretorque mode resulting in car drifting in the direction of the load without enough torque control. Please refer to the attached KEB technical document for more details.

Action

MCE recommends that you proactively review your maintenance portfolio for any M4000 controllers with F5 drives shipped from May 2010 thru July, 2013. If the KEB drive keypad software version is 1.71 (parameter LF.80) & date code (parameter LF.81) matches any one of them mentioned above, please contact MCE technical support in order to arrange for a replacement of the drive operator. Even though the probability of this occurrence is rare, a replacement will completely avoid any likelihood of any unexpected condition. Contact MCE support team for any further questions.

MCE Help

As always, should you require any additional technical assistance on this or if you wish to add your email for future technical bulletin advisories:

- **Email: techsupport@nidec-mce.com**
- **Refer to the reference number above**

PRODUCT BULLETIN

To: Motion Control Engineering - Technical Manager
From: KEB Elevator Technical Support
Date: March 13, 2015
Document#: 43166
Subject: EMI Disturbance with Serial Communication on v1.71 Keypad Operators

Dear Customer,

It has been determined that with KEB F5 elevator drive keypad operators v1.71 (material number 00F5060-2036) prior to datecode 2407.3 (July 24th, 2013) that high electromagnetic interference (EMI) noise may intermittently have an adverse effect on operation with serial speed control (LF.2 = SerSp).

Excessive common mode noise EMI from outside the drive may disrupt the serial command between the keypad operator to the drive control. This may result in motor operation with very low or very high speed gain values depending on the drive's synthetic pre-torque gain settings, regardless of whether the function is active or not. With gain values too low and out of range for operation, the motor cannot produce the required torque and the car drifts in the direction of the counterweights. Since the disruption occurs due to EMI, it cannot be determined when or whether a particular jobsite, installation, or situation is at risk; although, the affect would be more noticeable on gearless installations as opposed geared machines.

Although occurrences of this particular issue have been rare, software updates have been implemented to eliminate the unintended effects. Therefore, it is highly suggested to upgrade keypad operators to version v1.71 datecode 2407.3 or later which resolves this issue.



PRODUCT BULLETIN

The keypad operator version can be found in LF.80 and the datecode can be found in LF.81 (ddmm.y). v1.71 keypad operators will have material number 00F5060-2036 and **earlier versions or v1.71 datecodes released after July 24th, 2013 are not affected**. Below is a list of v1.71 datecodes for which updates are recommended:

- 2201.0 (January 22, 2010)
- 704.0 (April 7, 2010)
- 2904.1 (April 29, 2011)
- 308.1 (August 3, 2011)

Since updates would require a replacement keypad operator, to facilitate the change a separate Parameter Transfer tool may be available to easily transfer parameters from the existing keypad operator to the replacement keypad operator. Parameter Transfer tools are available for purchase, but may be returned for credit within 90 days.

In addition to mitigating the issue with software updates, it is advised to review the panel wiring layout to minimize the cause of the EMI interference:

- Ensure proper grounding and connections.
- Ensure a common-mode ferrite ring(s) is installed over all three motor output phases at drive; additionally a ferrite ring over both the ++ and -- DC bus connections when line regen units are utilized.
- High voltage AC, DC, and motor wires should be physically separated by 6" and cross at 90 degrees.
- Low voltage wires including serial communication cables and encoder cables should also be kept separate from high voltage wires.



PRODUCT BULLETIN

If you have any questions, please contact KEB at 952-224-1400.

Sincerely,



Tony Heiser
Elevator Business Development Manager, KEB America



KEB America, Inc.
5100 Valley Industrial Blvd. S
Shakopee, MN 55379

www.kebamerica.com
info@kebamerica.com