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Author(s):	Mark Woods
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Approvals

Mark Woods 6th Nov 2019
Author Name - Author, Date

Lou Savell November 6, 2019
Approval Name – Approval, Date

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+1-281-640-8600 | info@avidcontrolsinc.com | www.avidcontrolsinc.com

1. Terms and Definitions

<u>DELTA</u>	GEPC Inverter Module, Liquid or Air Cooled
<u>BDM</u>	Basic Drive Module
<u>EU</u>	European Union

2. References & Related Documents

Document Number	Document Title	Notes

3. Document Purpose and Overview

This guidance note for spare fan selection covers the Standard DELTA cooling fan 31V5200, and frame Size 6 and Size 7 BDMs (e.g. MV3364A4 & MV3566A4) using a 225mm fan. It does not cover fans used in other products e.g. Size 3 and 4, DELTA High performance fans MVC3014, 31V6900 and Liquid cooled DELTAs.

4. Document Contents

Compatibility

The 225mm diameter fan has been used extensively for many years, with several variations of the exact type over the life of these products. The spare fan assemblies have always been selected to be backwards compatible until April 2013. From this date, the fan used in Frame Size 6 & 7 is not backwards / forwards compatible as it is a different physical size. This change has been forced due to the EU regulations implemented at the end of 2012.

Note: 31V5200/10 DELTA fan mechanical design is suitable for all fan versions.

Fan and Capacitor versions

Three main versions of the fan have been used. Each variant requires that the correct motor run capacitor is used.

Maker reference	Manufacturer's part number	Compatible capacitor	Used
98101/145	R2E225-AK01-13 or R2E225-AU64-13	4µF	Until mid-1997
98101/151	R2E225-BA47-09 or R2E225-BA47-11 or 2RRE45.225/63R	5µF	Until 10/04/2013
98101/170	R2E225-RA92-10	3.5µF	Present

Table 1 Fan and motor run capacitor

Frame Size 6 & 7

For the last change of fan (/151 to /170) the BDM metalwork surrounding the fan has been modified to accept the mechanical changes in the fan design.

- 98101/170 will **not** mechanically fit into BDMs supplied before 10/04/2013.
- 98101/151 will fit mechanically, but will give poor cooling if used in BDMs supplied before 10/04/2013, so it should not be used in BDMs manufactured before this date.

Spares Type

Maker reference	Suitable for Product type:	Contents	Status
S98101/145	31V5200 Standard DELTA Fan	98101/151 + 5µF capacitor	Obsolete – replaced by S98101/170
S98101/151	31V5200 Standard DELTA Fan	98101/151 + 5µF capacitor	Obsolete – replaced by S98101/170
S98101/170	31V5200/10 Standard DELTA Fan	98101/170 + 3.5µF capacitor	Available
SMV98101/151	Frame size 6 &7 BDM Manufactured until 10/04/2013	98101/151 + 5µF capacitor + cables cut to length & terminated	Limited availability*
SMV98101/170	Frame size 6 &7 BDM Manufactured after 10/04/2013	98101/151 + 5µF capacitor + cables cut to length & terminated	Limited Availability, please enquire

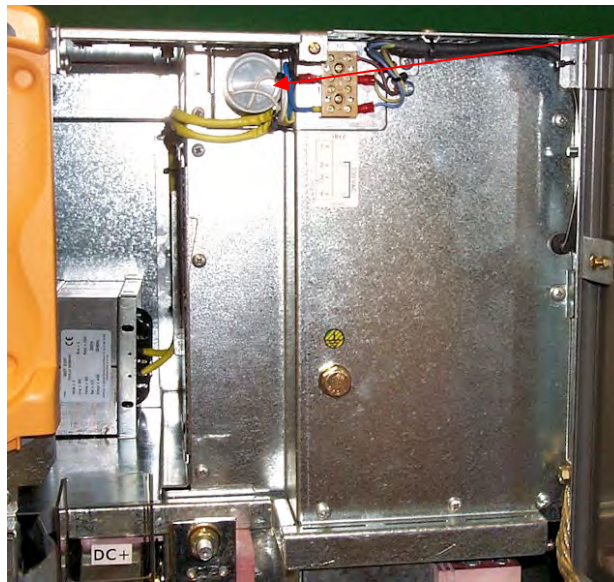
Table 2 Spares assemblies for 225mm fan

* In the EU this fan may only be used for spares when there is no alternative. This applies to Frame Size 6 & 7 manufactured before 10/04/2013.

Selecting Spare Type Number

1. If the date of manufacture is known, select the fan type from Table 1, or
2. If the date of manufacture is known determine the fan type used from the motor run capacitor.

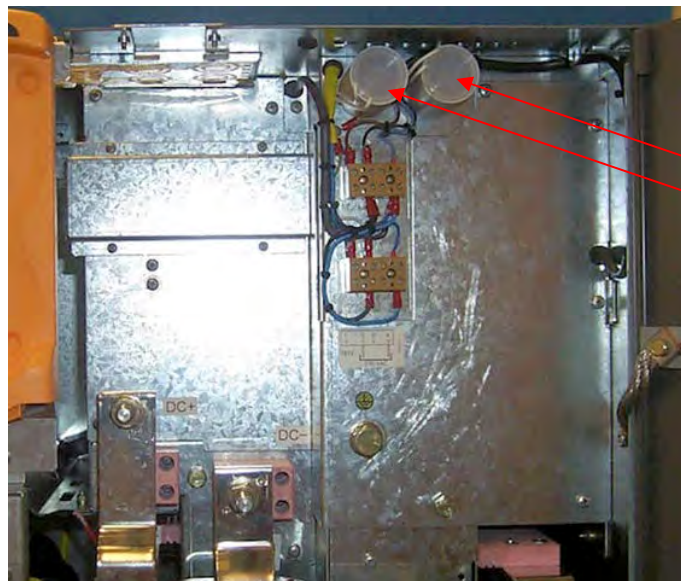
For Frame Size 6, this is located at the top of the BDM (see Figure 1) behind the main door and will show either 3.5 or 5µF. Then select the fan type from Table 1.



Motor Run
Capacitor

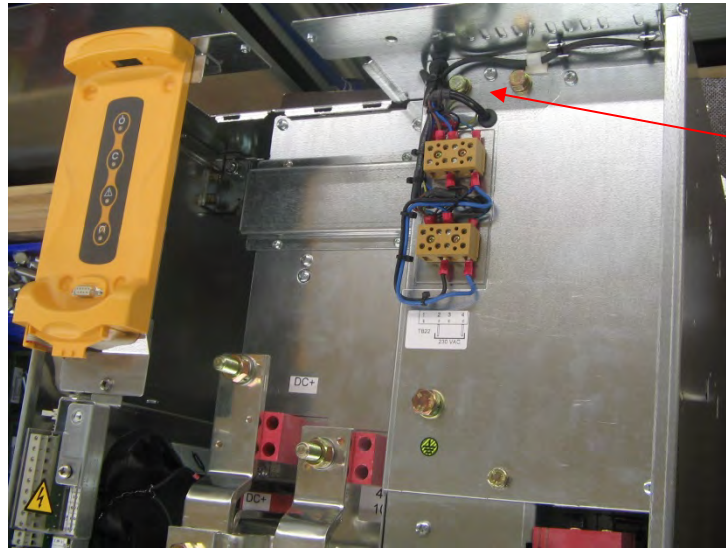
Figure 1 Frame Size 6 Location of motor run capacitor

For Frame Size 7, on drives manufactured before 10/04/2013 these are located at the top of the BDM behind the main door and will show 5 μ F and require SMV98101/151 as the spare. For drives manufactured after 10/04/2013, these capacitors have been moved behind the fan panel and so are no longer visible when opening the main door. Figure 3 shows this new arrangement. These drives require SMV98101/170 as the spare.



Motor Run
Capacitors

Figure 2 Frame size 7 Location of motor run capacitors



Motor Run Capacitors removed. Now located behind the fan access panel.

Figure 3 Frame Size 7 Fan Wiring after 10/04/2013

- Alternatively, read the part number from the fan motor. This will involve removing the fan access plate (refer to the BDM spares manual for details of this process)



Manufacturer's Part Number

Figure 4 Fan part number on motor

5. Revision History

Rev.	Date	Author(s)	Changes
00	11/5/2019	Mark Woods	Document Created with AQS