

Certificate

OF CONFORMITY

No. BSI 09 ATEX 546579X



Issued to:

Control Techniques Dynamics Limited
South Way
Walworth Industrial Estate
Andover
Hampshire
SP10 5AB
United Kingdom

In respect of:

A range of servo motor types UM, SL, U2, E2 and UP

Samples of the above products have been successfully tested and assessed according to the requirements of European standards EN 60079-0:2006, Electrical apparatus for use in potentially explosive atmospheres – General requirements, EN 60079-2:2007, Equipment protection by pressurised enclosure 'p', EN 61241-0:2006 Electrical apparatus for use in the presence of combustible dust – General requirements and EN 61241-1:2004 Electrical apparatus for use in the presence of combustible dust – Part 1: Protection by enclosures 'tD' as detailed in the test report 239/7283705. In compiling the report, the requirements of Annex II of the ATEX Directive 94/9/EC, as transposed into UK law by ATEX Regulation SI 1996 192 and amended by SI 2001 No. 3766 were taken into account. This certificate confirms that samples of the products listed in this certificate were successfully tested and assessed in accordance with the above European standards and found to be in conformity. The assessment was based on technical documentation provided by the manufacturer. This assessment did not include an assessment of production. The manufacturer of the equipment referred to in this certificate is as detailed in Annex VIII (Internal Control of Production) of the ATEX Directive 94/9/EC responsible for ensuring that any replicates of the machine referred to in this certificate, conform to the specifications laid down in this certificate, and any special conditions for safe use referred to herein. The manufacturer of the equipment referred to in this certificate is also required to lodge their Technical Documentation with a Notified Body.

A handwritten signature in black ink, appearing to read 'D. Ford', with a horizontal line underneath it.

David Ford, Director, Healthcare and Testing Services

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GENERAL DESCRIPTION OF EQUIPMENT INCLUDED WITHIN THE SCOPE OF THIS CERTIFICATE

A range of servomotors types UM, SL, U2, E2 and UP conforming to EN 60079-2 for use in conjunction with ATEX approved pressurisation control units that conform to EN 60079-2 for use in the presence of potentially explosive gases vapours and mists. A range of servomotors types UM, SL, U2, E2 and UP conforming to EN61241-1 for use in the presence of potentially explosive dusts.

CONDITIONS FOR MANUFACTURING

None.

SPECIAL CONDITIONS FOR SAFE USE

Specified within the technical dossier but highlighted here.

1. The motor front face must be bolted to the machine in such a way that the IP 65 protection is maintained.
2. If the motor is exposed to airline pressure of 7 bar, the motor shaft seal shall be checked for damage and replaced if necessary.
3. To be used with Control Techniques SP size 1, 2 and 3, Digitax ST, M'Ax and MultiAx drives only. The Control Techniques drives maintain control over the operating temperature of the Unimotors by monitoring current flow electronically. The motor is not fitted with any safety devices. When the drive is installed the user should conduct a hazard assessment and ensure that the requirements of Clause 1.5.1 of the ATEX Directive are met.
4. Brakes must be changed if dynamic braking occurs and purge system cleaned to ensure there is no brake dust.
5. Must be repaired by CTDynamics only
6. It is the system builder's responsibility to install and use the Unimotor in accordance with the specification of the motor and to ensure that it is part of a safe system. To assist the system builder CTDynamics has published the following flow rate information.

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7. Pressurisation control system.

A flow rate of 15 litres/minute and an over pressure in the motor of 35 mBar is required and these parameters should not be exceeded by more than 25%.

Clean Air source.	Purge time	Safety factor applied
UM 75-190	10 min	25%
FM 075-190	3.5 min	

At the end of the appropriate purge time the purge outlet valve of the motor should be closed so that thereafter it is only necessary for the pressurisation control system provided by the user, to compensate for leakage. The leakage flow rate of the pressurised enclosure must not exceed 0.5 litre/min. Ensure that the motor connectors are sealed with the compatible cable connectors to avoid unacceptable pressure loss. The motor can then be powered.

8. Users operating their facility using **compressed air** are required to regulate the compressed airline to operate at a pressure of no greater than 7 Bar. The compressed air must be obtained from a clean source at a temperature of between 10 °C and 30 °C. Users are also required to fit a pressure relief valve or a pressure regulator that is capable of delivering at a pressure of no greater than 7 Bar should the regulator for the airline fail. This must be fitted in the supply to the pressurisation controller. The pressurisation controller is required to regulate source pressure down to 35 mbar.

9. The pressurisation controller must be capable of regulating source pressure down to an overpressure of 150 mbar maximum. (The installer must ensure that the performance of safety devices is verified.)

10. The installers must select a pressurisation control system that is capable of meeting the above requirements and that this should be accompanied by its own EC Declaration of Conformity to the ATEX Directive and should be marked as being associated apparatus [Ex p].

11. In the event of an emergency shutdown the pressurisation control system should remain operational.

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12. Zones 2, 22

13. $0^{\circ}\text{C} < \text{Ta} < 40^{\circ}\text{C}$

14. Humidity – 40-90%RH non condensing.

15. Vibration level – Ensure that machine vibration levels do not exceed those specified by the Encoder manufacturers.

16. Some presence of dust (also metallic dust) and oil in the atmosphere, but dust layers are not allowed to form on the surface of servomotors. Overheating will occur as dust layers act as an insulator.

17. Motors are not to work offshore.

18. IP65 seal is against water only, excluding front face.

19. Other chemicals or substances should be checked independently.

20. Substances which could corrode or damage these materials should be assessed by machine builder and kept away from the motor.

21. UM motors should be installed in areas of low risk of mechanical danger as the feedback housing cover is held onto the rear end frame via the green plastic moulding and should be protected from falling objects or being used as a step.

22. FM motors can be installed in areas of high risk of mechanical danger as the feedback is part of the rear end frame.

ATEX certification codes:



II 3 G Ex pz T3 ($0 < \text{Ta} < 40^{\circ}\text{C}$)



II 3 D Ex tD A22 IP65 T200 °C

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