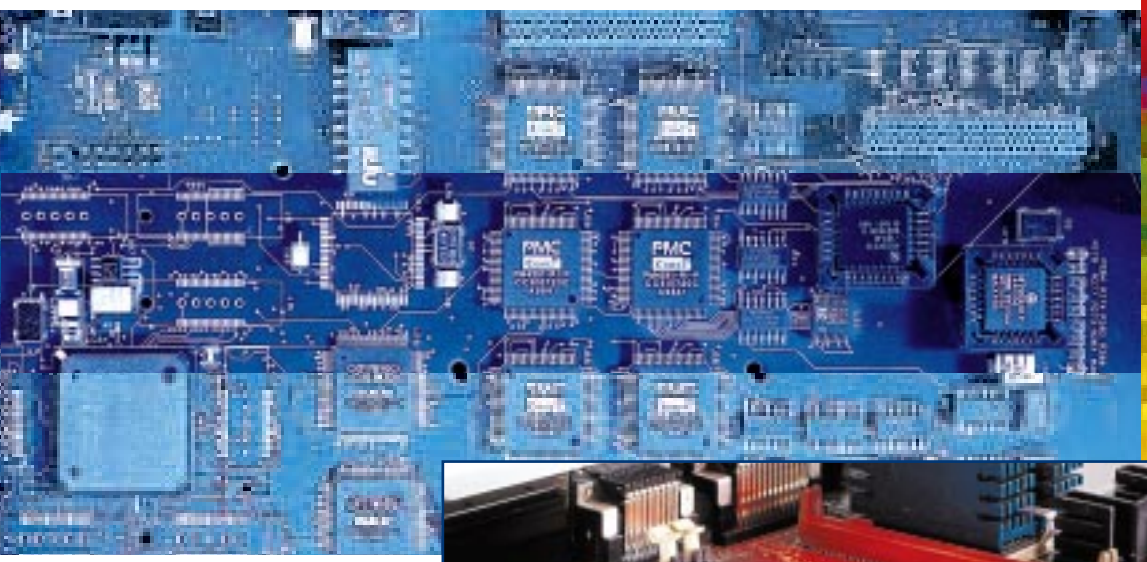
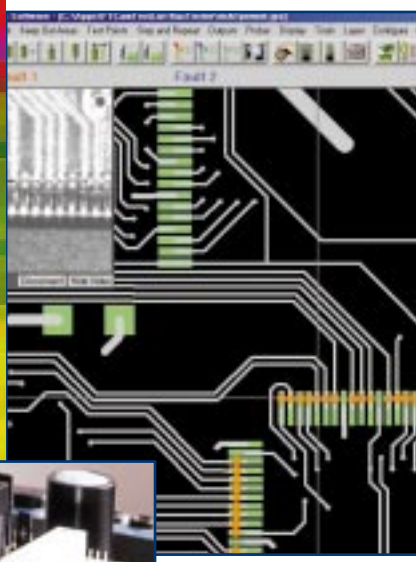
Prototypes, short production runs, new product launches.
Deliver your product to market on time and on budget





PCB repair test system

GRS550

Increase prototype yields

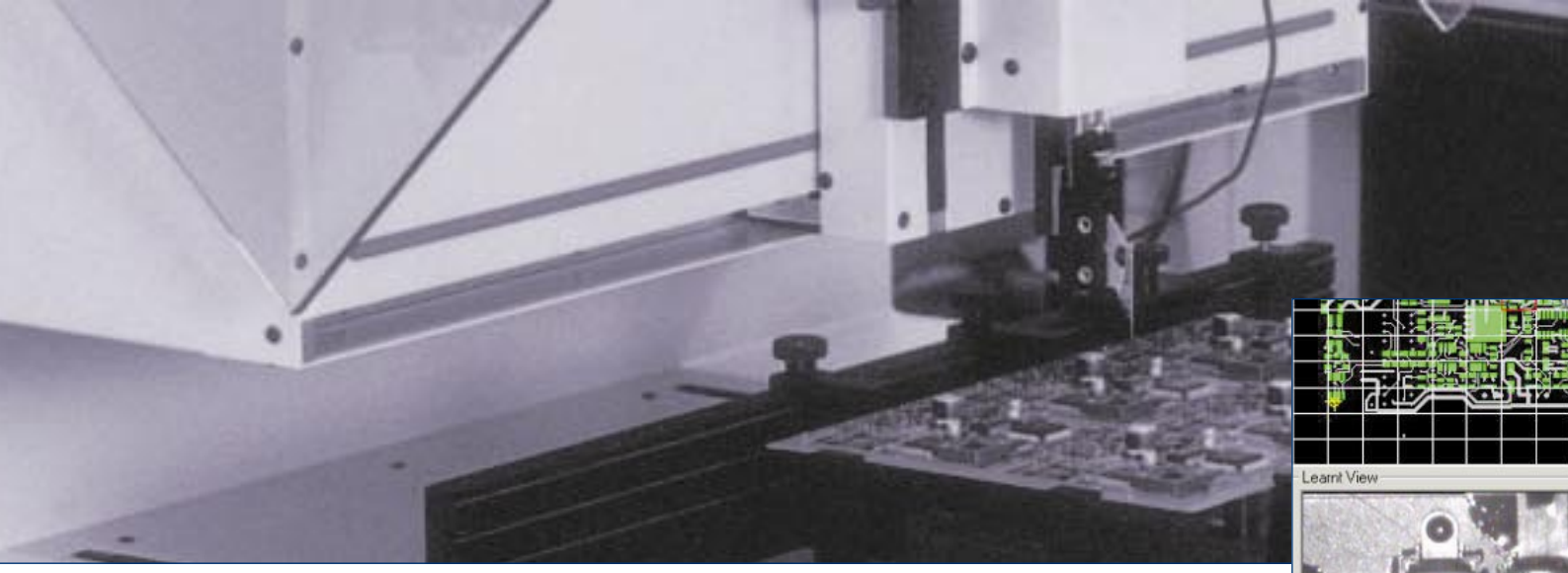
Designed for short series production

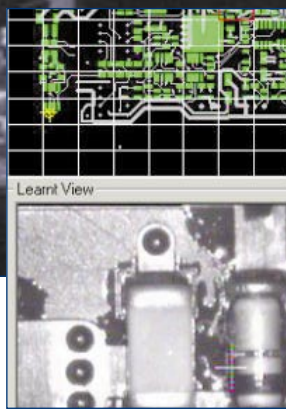
Fast programming from data

Low cost of ownership

Polar

polarinstruments.com





Prototypes, short production runs, new product launches, GRS550 helps deliver your new product to market on time and on budget

Prototypes, short production runs, new product launches all present a challenge in the manufacturing environment. In short series production and prototype build situations, traditional test solutions are often not economic to implement. This leaves your technical team facing the prospect of performing manual troubleshooting. It goes without saying this is labour intensive and not an easy task on densely populated high technology PCBs.

GRS is designed as a repair test system, helping you repair and reclaim expensive boards with hard to find faults which otherwise would only be scrapped, saving a costly and wasteful exercise.

Designed especially to operate in the following situations – prototyping, with newly launched products, and with production runs that are too small to justify traditional ATE –although you can also use the GRS550 as an excellent complement to traditional fixture based ATE. If you specialise in prototype or short series production, the GRS is just what you need to keep yields at a maximum.

Make best use of your technical staff

You know that troubleshooting complex PCBs is a skilled task and that skilled technicians who can rapidly diagnose PCB faults are a scarce resource. The GRS is designed to help your technical staff put their skills to best use, by helping them rapidly target PCB problem areas and giving them the tools to track down faults in the minimum possible time.

The GRS is efficiently programmed from CAD data, troubleshooting programs can be developed in a fraction of the time and cost of a fixture based solution.

Over 20 popular CAD formats are supported by GRS.

Contrasting traditional fixture based ATE and the GRS

The strength of a traditional test solution using fixtures is in a high and medium volume environment, but as board complexity increases, the fixture cost associated also ramps up, and the number of boards you need to build to justify a fixture will also increase. Also, it may not be physically possible to access the whole board with a fixture, leaving some areas untested. GRS is a flying probe based system and by using CAD data the GRS ensures you can probe a high percentage of the board. You may ask, "Is fault coverage as high as on a fixture based system?" This is an area where you need to decide what is best for your application.
A fixture based system will typically (though not always) tend to have a higher fault coverage than a flying probe based system. Your benefit from using a flying probe based GRS is that your technical staf f can have programs up and running from day one of production, and when engineering changes are made you do not have to write of f costly fixtures - sometimes worth upwards of 20 000 Dollars.

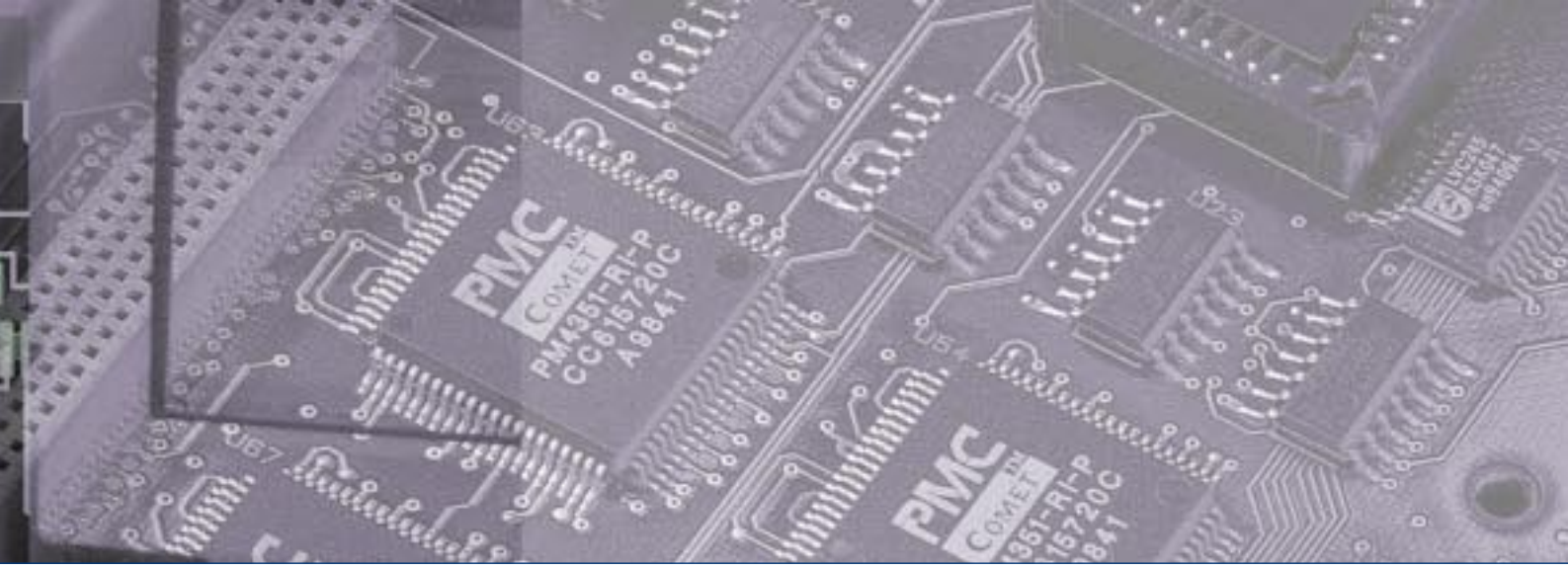
- ***Rapid set up***
- ***Use alongside conventional ATE***
- ***Low ownership costs***
- ***Free from recurring fixture expense***

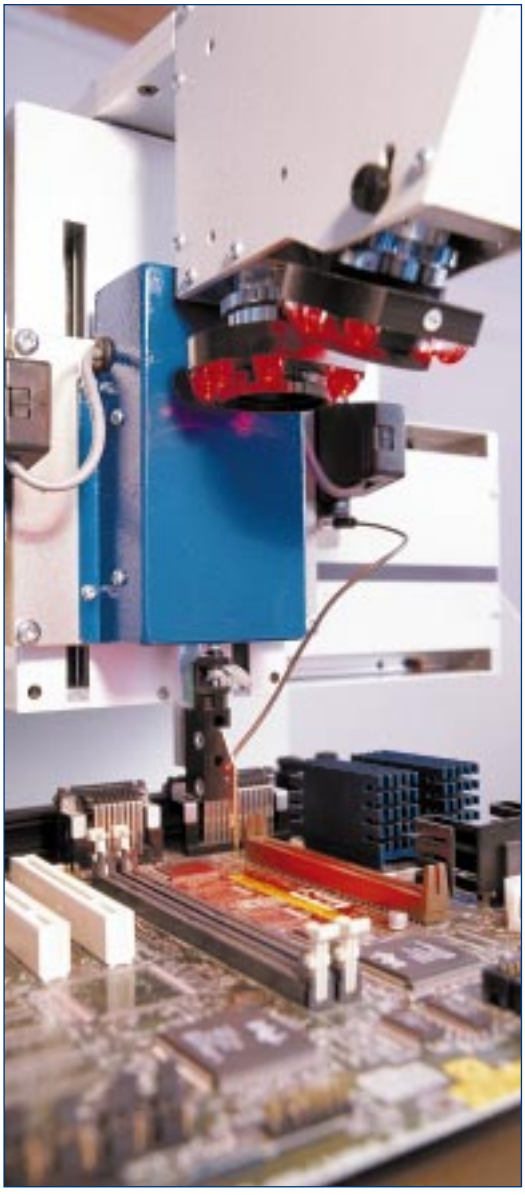
Using GRS to complement other testing methods

Functional test is an excellent tool for final system verification, however if function test fails often the diagnostic information available is not deep enough to show which component has failed. GRS can help your technicians determine and repair the root cause of the problem.

Using GRS to complement Boundary Scan

Some boards now incorporate boundary scan as a built in diagnostic system. This can be a useful tool in locating faulty areas on powered up boards. But you do need to apply power to run the boundary scan tests.





If you need to work on a board with a power distribution fault, the GRS will help you safely identify these types of fault before you apply power .

Graphical Repair

GRS displays the CAD nets on screen and saves your technicians the time consuming process of wading through pages and pages of paper documentation. Built into the GRS design are features designed to speed the troubleshooting process (features Polar has developed using our 25 years of fault finding experience). New in the GRS is a Virtual Xray which allows your technicians to "see" traces as they run inside the board.

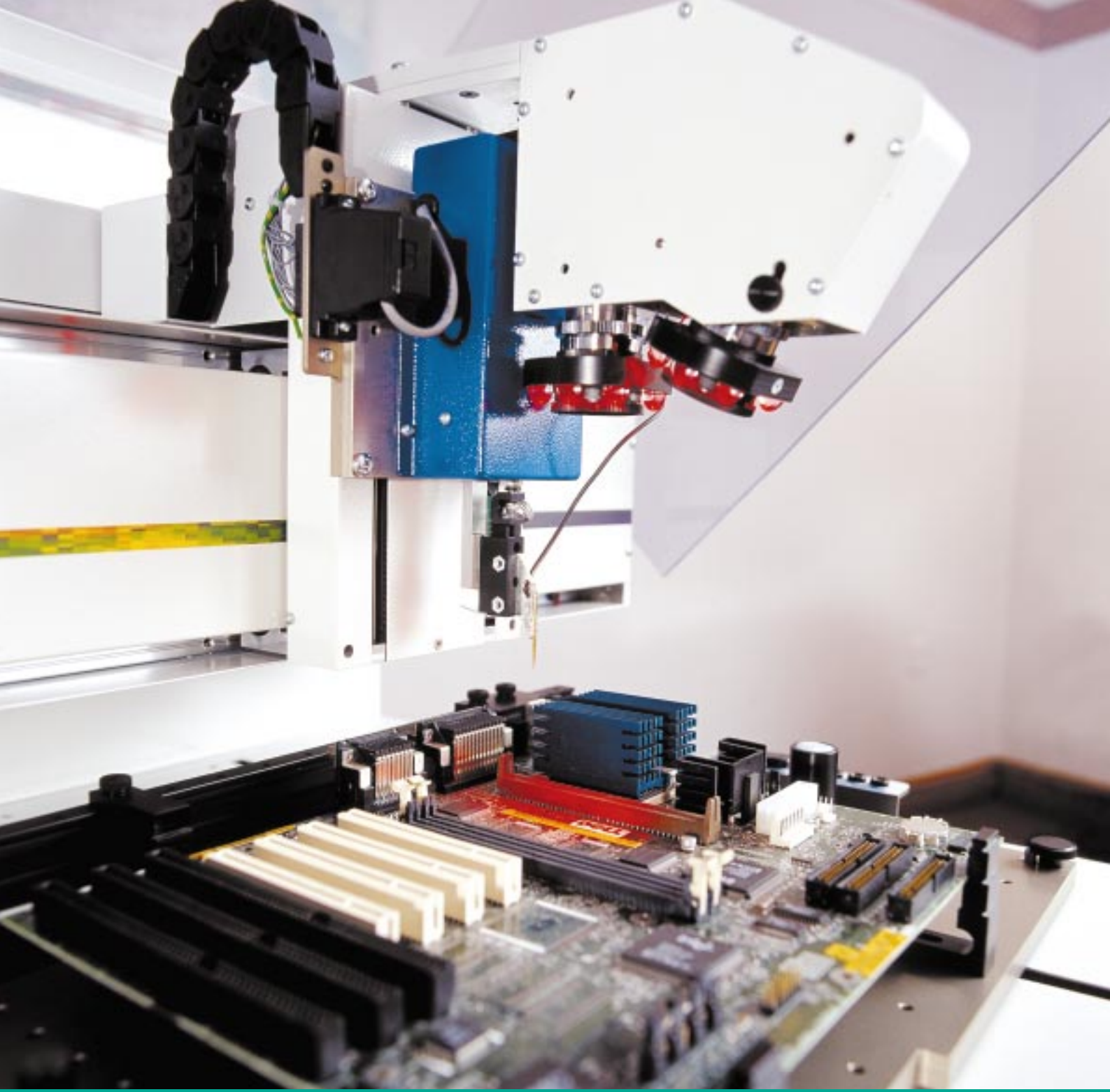
Versatile technology

Designed to faultfind on all technologies, the GRS is flexible enough to work on a variety of technologies including surface mount, through hole, right through to BGA and mixed technology boards. And in the event that CAD data is not available, the GRS includes a simple to learn manual programming interface.

Application in service and repair centers

GRS550 is also an invaluable tool in service or repair departments, now faced with more complex and hard to probe technologies. Though designed for use with CAD data, in the event that this is not available for your board, the manual programming interface allows you to "Pick and Place" components onto a test program. As your knowledge of the board under test grows, you can add known nets to the test program, and start to approach the level of coverage that is obtainable with CAD Data.

For more information on service and repair see brochure LIT302



Financial performance
Designed from the outset for long life, flexibility and low cost of ownership, the GRS5 50 will help reduce your costs for many years and is suitable for use on a wide variety of PCBs.

You stand to benefit most if you can answer yes to more than 2 of the following criteria:

• Make high value added boards • Often introduce new products • Specialise in short series production • Utilise Functional test or ATE • Use Boundary Scan • Need to debug prototypes

An Investment
Above all GRS550 is designed to help you increase yields and ultimately lower your costs.

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LIT: 301

GRS550 Specification

Probing System Specification	*Metric*	*Imperial*
Probing area (max.)	300x450mm	12"x18"
PCB size (max.)	330x630mm	13"x24.8"
Test speed (typical)	5 tests per second	5 tests per second
Component height (max.)	100mm	4"
Max. Z travel	100mm	4"
Accuracy	+/- 0.04mm over 300mm	+/-1.6 mil, 0.0016" over 12"
Repeatability (typical)	+/- 0.004mm	+/- 0.16 mil, 0.00016"
Resolution	0.008mm	0.3 mil, 0.0003"
Probe pressure	Less than 120gm	Less than 6oz
Dimensions	900x650x524mm	35.5"x25.6"x20.6"
Weight	100kg	220lbs

Cameras	Two internal USB 2.0 cameras
GRS Controller	Included hi performance PC with preinstalled GRS550 software, 24" Monitor, 500 GB HDD, RAID Controller.
Acquisition System	GRS500BXd nodal impedance test system - included in package
GRS550	Accepts data from over 20 popular CAD systems, for a comprehensive list please see www.polarinstruments.com, the GRS also supports manual programming. Troubleshooting uses nodal impedance for comparison, in addition the board is videosectioned and the operator can look at sections of a known working board for comparison with the board under test.
GRS550 Options	**Active Test** for functional Tests on powered PCB´s using NI LabVIEW **Active Vision** for automatic optical Inspection **Boundary Scan Test** using Göpel CASCON (R)
Standard Accessories	Interface cables, joystick, spring common pins, spare test pins Operator Manual
Motion Controller	Precision Stepper Motors, Encoders on X,Y,Z Axis, Stall Detect.
Approvals	Conforms to applicable European Directives and is CE marked.
Nato Stock Number	Contact factory

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