GB

News from JVL

A newsletter from JVL Industri Elektronik A/S Number 7

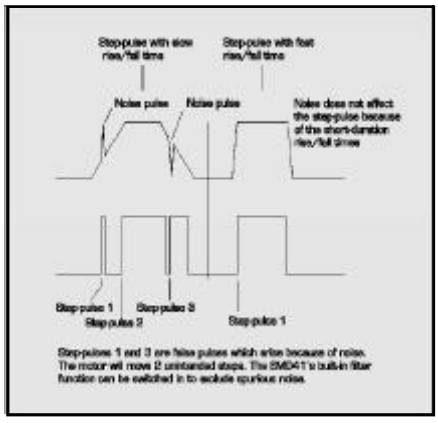
New Generation of Ministep Drivers Replaces SMD40

Ministep Driver SMD40 Re-designed

Our popular Ministep Driver SMD40 is being replaced by a completely new model, type SMD41. The new SMD41 offers several notable improvements:

1. Improved efficiency through the use of MOS-FET transistors that reduce loss by a factor of 3-4.
This gives significant reduction in heat loss and in many instances enables normal operation without the use of heat sinks.

2. Introduction of a built-in filter at the step-pulse input. In situations where the SMD40 received signals from a PLC or other source and the rise and fall times of the step-pulse signal were very slow, irregular operation could occur.
This was due to the fact that the step-pulse signal is very sensitive if it is not above logic 1 or below logic 0 (see illustration). The new filter is a selectable function and therefore an extra switch setting has been added to the SMD41. Switches 1-4 are still used for selection of the current curveform and step resolution.
Note that the filter cannot be used in all circumstances, e.g. if the SMD41 is used at very high step-pulse frequencies (over 40-50 kHz) or if the pulses are very short (< 5-10µs).



3. Improved EMC performance. The SMD41 utilises multi-layer PCBs which provide exceptional noise damping. Thus the effect of electrical noise generated in the Driver on its surroundings is greatly reduced.
Note that noise can never be completely eliminated in motor control systems and care should always be taken to ensure that screened motor cable is used and that motor cables are isolated from sensitive signal cables such as step-pulse/direction signals.

The SMD41 is compatible with the SMD40, and can therefore be used directly in applications previously using a SMD40.

Type :	Resolution Steps/Full-step	Current (RMS) (adjustable)
SMD41A1	10	3 Amp./Phase
SMD41A2	10, 25, 50, 125	3 Amp./Phase
SMD41A3	1, 2, 4, 8	3 Amp./Phase
SMD41B1	10	6 Amp./Phase
SMD41B2	10, 25, 50, 125	6 Amp./Phase
SMD41B3	1, 2, 4, 8	6 Amp./Phase
SMD41C1	10	9 Amp./Phase
SMD41C2	10, 25, 50, 125	9 Amp./Phase
SMD41C3	1, 2, 4, 8	9 Amp./Phase

JVL at "Teknik & Data"

JVL Industri Elektronik again took part in the major Danish exhibition "Teknik & Data" last year. Many interested guests visited the JVL stand to see the newly developed AC Servo Controller AMC20 and the Smart motor manufactured by Colibri. Additionally there was great interest in the small Yaskawa servo controllers and the new linear and rotary encoders from the Italian company Givi Misure.

Danfoss Calibrates Thermostats and Pressostats using Motors and Controllers from JVL

Step Motors and Drivers from JVL help to adjust Danfoss products

The well-known Danfoss KP thermostats and pressostats are calibrated in a set-up that includes the use of 2 step motors and associated SMD15B Drivers from JVL. The set-up is controlled by a Hitachi PLC.

Each Thermostat/Pressostat has 3 adjustment screws: a "stop screw" that determines mechanical displacement, an adjustment screw for adjusting the unit's control range in Bar or degrees Centigrade, and a screw for adjusting differential pressure or temperature. The stop-screw is adjusted by a photocell, while the latter two controls are set relative to reference values using the two step motors.

Adjustment of the unit's control range and differential pressure range is accomplished by comparing the signal from a pressure transducer with the required values. The step motor pulses are generated by the PLC, which calculates the required number of steps on the basis of the measurements taken.

The final adjustment of the pressostats/thermostats adjusts the units according to the actual pressure/temperature the sensor experiences. These adjustments are also done using step motors.

Danfoss has recently converted a large number of manual workplaces to incorporate these automated processes. This is being done in a continuing effort to avoid work that involves very repetitive tasks. Many of the new calibration stations have been established at Danfoss' new factory near Warsaw in Poland.

The complete KP pressostat.

Workplace for calibration of pressostats/thermostats.

Drivers SMD15B mounted on the door of the control cabinet.

JVL on the Internet

Get up-to-date information quickly - including complete product data sheets

JVL's internet site is a quick way for customers to obtain up-to-date information about our products and recent news.

Last year, JVL's site was re-designed to provide a more user-friendly interface. The site now includes facilities for printing JVL product data sheets directly on your own printer. We are working on a complete on-line literature library including user manuals, etc. The site additionally includes info about products that JVL distributes, with direct links to manufacturers' own web-sites for further info. There is also information on JVL distributors and much, much more.

Visit our web-site at **www.jvl.dk** and get information quickly, 24 hours a day.

MAN - B&W uses JVL Controllers in Spray Robot Application

Experimental set-up for thermal spray process controlled by JVL Servo Controllers in a z-x System

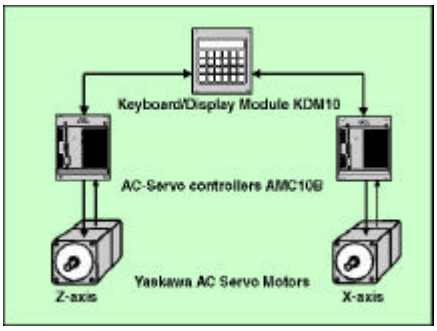
At MAN B&W in Copenhagen, hard-metal coating of various ship motor components is done using thermal spray processes. Components such as exhaust spindles, piston rods, housings and piston rings are treated in this way.

Until now, a chrome coating has been used on piston heads and the process carried out abroad. But to achieve a longer-lasting coating with lower friction, and to save on transporting the units, Man B&W is currently experimenting with a process in which the coating is applied by powder flame spraying. This process allows various materials, such as Wolfram carbides, to be used in powder form.

The experimental set-up consists of a turntable and a robot that controls a spray pistol in the z and x axes. Movement in each axis is performed by Yaskawa AC servo motors, each driven by a JVL AMC12B AC Servo Controller.

Each Servo Controller is programmed to control movement in accordance with a predetermined sequence. Control of the Controllers is carried out from a KDM10 Keyboard/Display Module, via which the required motion sequence can be keyed-in and direction and velocity determined. In spraying the piston heads, the spray pistol must be moved up and down a certain number of times in each piston ring groove while the piston head is rotated. The pistol then moves onto the next groove.

The set-up is primarily intended for components with rotational symmetry but will also be suitable for use on plane surfaces.



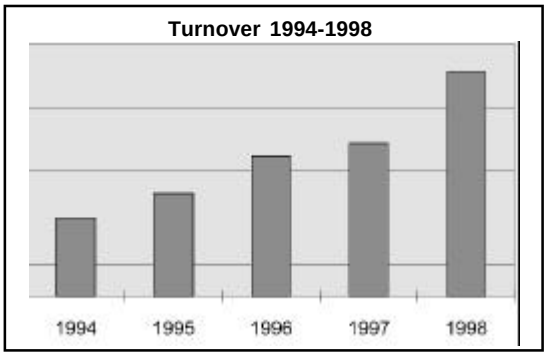
Set-up for controlling the robot

Experimental set-up for powder flame spraying the grooves of a 50cm piston head.

JVL Continues Growth

At the end of the fiscal year 1998, JVL was once again pleased to report significant growth compared with the previous year. Turnover increased by 46% while share capital increased by 37%. This growth stems both from sales on the domestic market in Denmark and from significant increases in exports, in particular to Sweden, Holland/ Belgium and the U.K.

JVL's continued growth provides us with the opportunity for further investment in new developments, development of export markets, and facilities for further improved customer support. The number of employees at JVL also increased significantly in 1998-99.



JVL Now Also in Switzerland

JVL strengthening its export activities

In May last year, JVL took part in an exhibition in Zurich in Switzerland. The exhibition was arranged by the company Posidrive, which represents JVL in Switzerland. JVL's Bo Valeur Jessen and Per Flensborg took part in the exhibition, which was entitled Best99, together with Posidrive director, Rolf Büttler. It was Switzerland's largest event for industrial automation to date. Zürich's central location also attracted many visitors from southern Germany and Austria as well as neighbouring countries.

Our stand hosted a very large number of visitors and we have great expectations for development in this and other important export markets.

JVL´s participation at Best99 is part of our programme to develop a network of distributors throughout Europe.

JVL is now represented in Norway, Sweden, the U.K., Ireland, Germany, France and Portugal, as well as Holland and Belgium. We are continuing to look for suitable companies, in particular in Spain and Italy, and East European countries could also prove to be excellent markets for our products. Per Flensborg will be devoting a large part of his effort in this area of business.

A significant proportion of our turnover arises from exports, and experience from customers in one country benefits customers everywhere. Many of the ideas we get from wide and varied customer contact are used in new developments.

New Employees

On the 1st May last year, two new employees joined JVL:

Per Flensborg is a power engineer with 11 years experience in the field, in part with Rockwell Automation and with Brdr. Klee. At JVL, Per's area of responsibility will be all forms of external sales, including customer projects, calculation, tenders, courses, etc., both on domestic and export markets.

Thomas Kærager is an industrial electrician with 6 years of experience in PLC programming, installation, and troubleshooting automation equipment, most recently at Coloplast. Thomas´ area of responsibility at JVL will include technical customer support of all kinds, as well as development of customer software and troubleshooting.

We firmly believe all our customers will benefit from Per and Thomas´ experience.

Per Flensborg

Thomas Kærager

Industri Elektronik

...when motors must be controlled

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Representative

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