



HEIDENHAIN

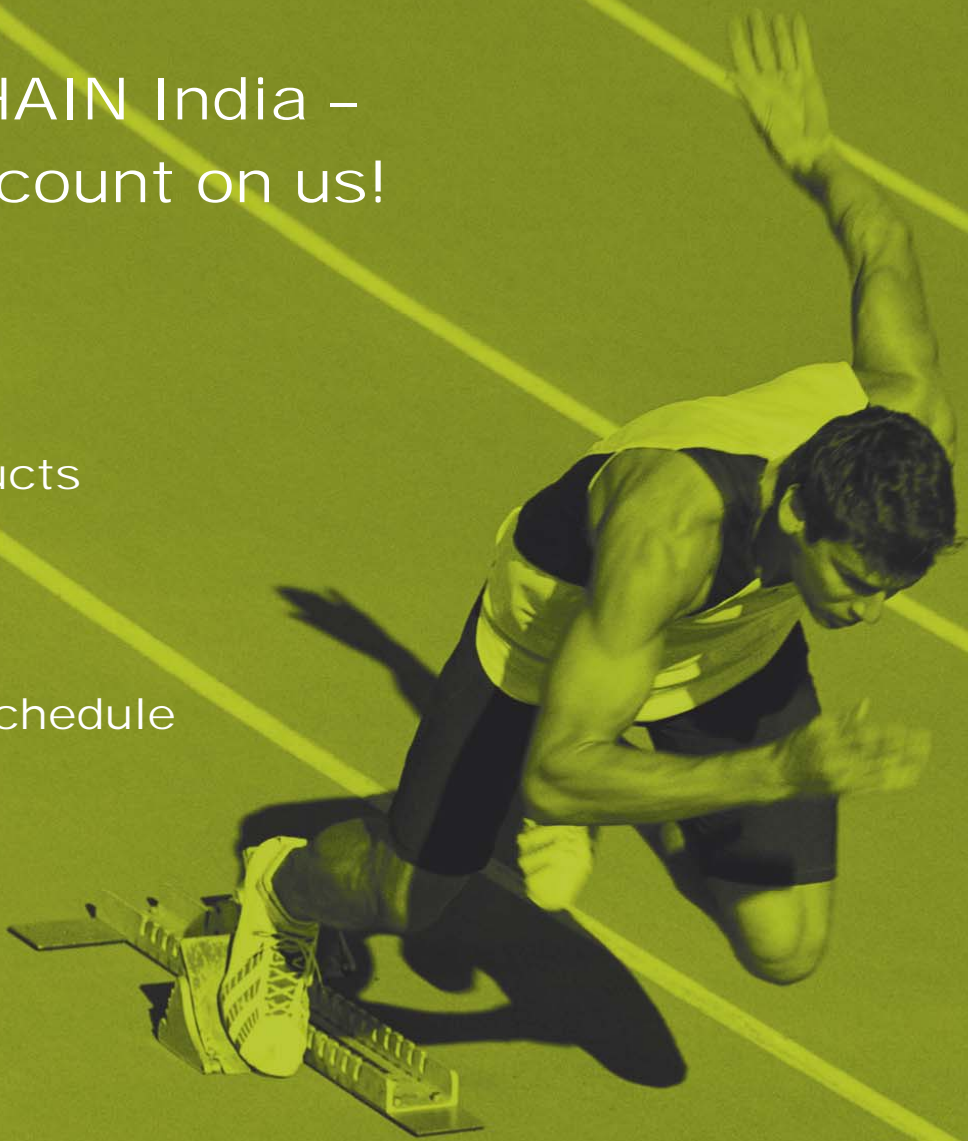
HEIDENHAIN INDIA **NEWS**

The HEIDENHAIN Newsletter keeps you informed!

Issue – Feb 2012

HEIDENHAIN India –
You can count on us!

- + New Products
- + News
- + Training Schedule



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HEIDENHAIN

LOOKING FORWARD.....

Dear Readers:

When we hear skeptical voices globally on the state of World Economy, it is normal to miss obviously positive signs of slow, but steady change. While it would be a fact to say that Europe and the USA will have some short term difficulties this year, according to serious analysts of global cues, the overall economic trend should improve by 2013 and an economy like India with a strong domestic market, a young productive work force, high level of connectivity and a robust democracy, has a strong potential to move forward. The 12th five year plan starting from second quarter of 2012 has a declared emphasis on overall growth with specific focus on manufacturing.

We have a robust automotive industry that produced 18 million vehicles in 2011 and we are the 6th largest auto making hub in the world. Also we have a matured aerospace and energy sector with manufacturing programs that need high end support systems.

We are among the top 10 of the fastest growing economies of the world and the 5th largest consumer of Machine Tools.

For Indian industry, this is the time to expand capacities, enhance manufacturing quality, improve maintainability of equipment and bridge the technology gaps.

HEIDENHAIN has been an exceptional successful company under all global situations, on account of the unflinching commitment to fairness and quality. In India 2011 has been the best year for HEIDENHAIN, thanks to all our discerning

customers in the manufacturing fraternity, who appreciate VALUE.

We keep bringing out outstanding products for the Machine Tool Industry here in India apart from other fields like Motor Manufacturing, Elevators and energy Industry.

Indian Machine Building Industry, after its half century existence, is looking at the 70% imports still coming from advanced countries and enhancing the presence and pedigree of the world class elements in their own products. As far as HEIDENHAIN is concerned exciting new products are now on offer, including absolute scales up to 28 meters long, high accuracy angle encoders with optimized scanning and superior positioning accuracies, infrared touch probes and CNC Control systems with highly advanced and even more user friendly OEM and software features.

We at HEIDENHAIN INDIA will perform our role of bringing these technological marvels into our country and help our customers to use and maintain them in the best possible way.

This will be our commitment and contribution in this critical juncture of nation building.



A.P. Jayanthram
Managing Director

LC 2x1 – New Absolute Sealed Linear Encoder for Machine Tools with Long Axes up to 28 m



Machine tools for the manufacture of large parts, e.g. for the aerospace industry, for construction of large turbines, or for large dies in toolmaking, all have at least one long servo axis. On these machines, axis lengths of several meters are nothing unusual. Because for several years the trend in encoders for machine tools lies in the direction of absolute metrology, a demand arose early for absolute encoders for long machine tool axes.

With its LC 2x1, HEIDENHAIN is now presenting the long awaited multi-section absolute linear encoder with up to 28 m measuring length.

With the METALLUR steel scale tape used in the LC 2x1, absolute position values can be generated even over long measuring lengths from only two graduation tracks.

Like the LB 382 scale tape, the METALLUR steel scale tape is manufactured shortened by a defined length. During mounting the scale tape is placed under tension and fastened to the machine base so that the measuring standard has the same length expansion as the machine base. The two graduation tracks are scanned over a highly integrated scanning ASIC with large scanning window. This makes it possible to realize single-field scanning with the reflected light method. The benefits are high signal quality and high resistance to contamination.

Long machine tool axes, too, are increasingly being equipped with linear drives. Due to the high acceleration reached on linear motors, the encoder needs to have high rigidity in measuring direction. The scanning unit therefore had to be redesigned. Besides the improved scanning by the new scanning ASIC it is now possible to design a more compact scanning head and with it a

scanning unit that has increased rigidity in measuring direction.

One essential new feature is the improved mounting of the LC 201 scale tape housing. The ends of the housing sections in the area of the scale tape guide have a tongue and groove system for better scale tape guidance. At the end of each scale housing section is a pre-mounted circumferential seal. They allow the scale tape housings to be simply slid into each other and the required housing gap of 2 mm to be set with a mounting aid (accessory). Time consuming re-measuring of the housing gaps, like on the LB 382, is no longer necessary.

The LC 2x1 is compatible in its mounting dimensions with the LB 382. It will be introduced and offered in the product program together with the existing LB 382. In this way large machines can be equipped both with an absolute as well as an incremental linear encoder. The LC 2x1 will be available in 200 mm increments from 4240 mm to 28040 mm measuring length. Solutions for measuring lengths less than 4240 mm are presently being discussed. Measuring lengths over 28040 mm are presently not possible and can only be assembled with the multi-section LB 382.

Compatibility with the existing LB 382

The LC 2x1 is compatible in its mounting dimensions with the multi-section LB 382. The EnDat02 interface (LC 281) keeps the capability of transmitting incremental signals. Appropriate adapter cables can be connected to both sides of the scanning unit without turning the connector PCB in the scanning unit. The LC 201 is likewise available in a mirror-image version.

The individual parts of the multi-section LC 2x1 are not compatible with the LB 382.

Improved mounting thanks to new housing design

The LC 200 housing components feature a new design. Due to the pre-mounted housing seal, assembling the housing components, has been greatly simplified.



MSE 1000 Modular Subsequent Electronics



For quite some time now, HEIDENHAIN has known about the requirement for multi-channel subsequent electronics for metrology applications: The black METROs have already been used in testing devices in which the HEIDENHAIN position display units were not suitable for measurement evaluation: In many cases it is not necessary to display a measured value on site, and frequently several axes are needed to measure a test object completely. Also, it was not possible to connect encoders other than incremental encoders to the HEIDENHAIN subsequent electronics. However, in addition to our length gauges, metrology applications require sensor technology for measuring the temperature, the pressure, and the inductive and analog signals.

The MSE was developed especially for such applications, as a package in combination with the EnDat interface.

This product now enable HEIDENHAIN to offer a complete package for the entire measuring chain, from the measurement of diverse test objects in many axes to convenient evaluation and process monitoring.

The following requirements

- Possibility of connecting all encoders and sensors commonly used in metrology applications, and of combining the individual units as desired
- Future expansions to new/further interfaces and functions should be possible
- Virtually any number of axes
- Simple integration of the system (hardware and software) in the customer application

quickly resulted in a platform that connects the individual function groups via internal communication. The information obtained is structured, collected and forwarded for evaluation via a standardized software interface.

HEIDENHAIN Thinks Green

HEIDENHAIN evolves right along with the many industries it currently serves since, fortunately, measurement and feedback of motion improves over time. As the energy industry seems to be moving to a new state, HEIDENHAIN is right there with the correct, accurate feedback solutions to assist in the processes.

For example, with regard to wind energy, HEIDENHAIN and its sister companies, like RENCO, Leine & Linde and LTN to name a few, are enjoying business by providing the necessary feedback devices for the wind turbines. You can imagine that these turbines are in tough environments: lightning, excessively high winds during storms, humidity, large temperature swings, etc. HEIDENHAIN's families of encoders are tested internally to those same specifications and more, thereby providing long lifetime in these harsh conditions.



On the renewable energy source of light from the sun, photovoltaic production and solar tracking are also popular applications for HEIDENHAIN currently.



ERN 430 Encoder

Solar concentrators and tracking photovoltaic cells need to follow the sun to obtain maximum efficiency. The motion control systems involved also often use HEIDENHAIN family rotary feedback products to provide speed and position control.

Constantly involved in R&D, HEIDENHAIN with its leading edge technologies is proud to continue to be a part of evolving industries.

Did You know??

...that HEIDENHAIN angle encoders are vital components in much of the largest array of telescopes of its type in the world, serving as the basis of a large astronomy research and training ground in the upper mountains of eastern California, USA?

Known as **CARMA** (the Combined Array for Research in Millimeter-wave Astronomy) this university based millimeter array consists of 23 telescopes and is operated daily with students and young scientists.

The science with CARMA centers around the study of the cold universe through imaging of radio emissions from molecules, dust, and relic emission from the very early universe.



Of the 23 telescope antennas on site, **HEIDENHAIN's RCN 729** angle encoders have been retrofitted into the six 10.4 meter antennas (the largest telescopes on the site), as well as chosen for the eight newer 3.5 meter antennas.



All the antennas are Altitude – Azimuth mount telescopes, having two axes each, and are used in combination to image the astronomical universe at millimeter wavelengths. “These HEIDENHAIN encoders allow us to accurately point on the sky,” explained David Woody, Director of Instrumentation at CARMA. “The accuracy we achieve is 1 to 2 arc seconds.” Because of its high static and dynamic accuracy, HEIDENHAIN's **RCN 729 angle encoders** with large hollow shaft diameters are often the preferred units for rotary and angle measuring tables, indexing fixtures, measuring setups and image scanners. The stainless steel version is particularly useful in antenna applications

TNC 640 – The new control for milling and turning

At EMO 2011, HEIDENHAIN presented the new and high-end TNC 640 control, based on NCK. (new NC Kernel).

The TNC 640 is suited for HSC and 5-axis machining on machines with up to 18 axes. It will be the first milling-machine control by HEIDENHAIN offered with **optional turning functions**. With this control, HEIDENHAIN expands its selection of high performance controls into the complete-machining market, which had not been covered until now. It is now possible to perform turning operations on a milling machine fitted with a TNC 640. The turning operations can be programmed in plaintext, just like the familiar milling operations. Comprehensive turning cycles are available for frequently repeated operations, such as roughing, finishing, recessing and thread cutting. The synergy effects of the new NCK become apparent on the TNC 640. The field-proven lathe controls from HEIDENHAIN provided the software basis for the turning functions.

The TNC 640 is based on HSCI, the new and completely digital hardware platform. The new and ergonomic design of the 19” screen and the operating panel (see figure below) with stainless steel fronts provide the TNC 640 with a suitable appearance.



The user interface of the TNC 640 is more modern, making it even easier for the operator to find the various functions and status displays. The new smart elect function makes it easier, for example, to select cycles, and syntax color highlighting improves clarity for the editing of machining programs.

Training Schedule:

We are pleased to inform you about the 2012 schedule for our popular training courses on measuring systems and TNC Controls.

As you may be aware, HEIDENHAIN India is conducting these training courses at our state of the art Training Centre located at Chennai with a mix of theoretical and practical classes since our inception in 2008. These courses focus on two major branches, measuring systems and controls systems. The course on measuring systems spans 3 days while controls spans 4 days.

This programme has been very popular in the past with participants from major OEMs and end-users who use our products. The reviews have been excellent and most companies repeat nominations. The participants are either from service / maintenance functions or machine users.

The detailed schedule is given below. We look forward to your nominations!

TRAINING PROGRAMMES SCHEDULE FOR 2012

TRAINING ON MEASURING SYSTEMS

MONTH	DATES
February	22-24
April	25-27
June	27-29
August	29-31
October	17-19
December	19-21

TRAINING ON iTNC 530 CONTROL

MONTH	DATES
May	15-18
July	17-20
September	11-14
November	20-23

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