



Your One Stop for Technology

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Introduction

Hello from Rob Maskell Editor of MasTec's eNews,

EMEX was a great success

EMEX: If you didn't get there, it was a large show covering the entire pavilions at the Auckland Show Grounds at Greenlane. There was some amazing technology shown off and loads of interesting people to talk to.

As usual MasTec was centre stage and did the most seminars, The launch of the Texmate Programmable Meter Controller, ZWorld TCP / Internet Controllers and are broad look at Distributed I/O from several manufacturers.

Training courses: MasTec did another LabVIEW course in May (only one due to EMEX). We are planning four new ones right now, Palmerston North (June 17,18,19), Dunedin and Christchurch. I need to hear from you ASAP if you want to come. Please do email me ASAP. The fourth course is organised and is for 10-12 people in Fiji, in late June.

Front Page Coverage this Month

Employment opportunities & Charlotte Miles new to MasTec
Texmate:- Practical usage.

MasTec Highlite this Month on Page 2

Educational Training products and more

MasTec Highlite this Month on Page 3

Gauging, Transducers and Sensors

Marketing Button

Have a look at the www.mastec.co.nz side bar button set and click **Marketing**. This covers many of the announcements by MasTec Ltd over the last year or so.

Specials Button

Also click our **Specials** Button. After the March 31st stock take, we placed on this "specials" page, a large number of products to clear. We are open to offers on these items.

Employment Button

MasTec is looking for Sales and Marketing person. Click on the **Employment** Button for details.

Charlotte Miles

Charlotte Miles is a new employee at MasTec and if you look on the web at **Contacts** you will see her background. Charlotte is an ISR at present and will slowly expand to become a full FSE (Field Sales Executive) as Saera Tui has done. You will find Charlotte to be extremely helpful.

TexMate Tiger 320 Series Programmable Meter Controllers www.texmate.com

It is now time to get serious about the Texmate Tiger 320.

So you want to build a small controller or a logger or a PID system or a very accurate weigh batch system or an AC power meter system, or control a whole lot of digital I/O, maybe make a Devicenet Controller or a front end that does scaling for PLCs and all the floating point math and linearisation, or an alpha-numeric scrolling annunciator. The list is endless.

Don't just guess how these are made, look at www.texmate.com and click on Applications. Texmate are planning on 1000 applications for the web.

Also have a good look at the 100 signal conditioning modules. This PMC (Programmable Meter Controller) will work in adverse conditions also, it has a broad range AC or DC power supply, the Signal conditioners are tough and the measurement and control systems are tested in a high noise environment and will work in the machine or the factory.

There is NO system that does all the integration, signal conditioning, digitising, displaying, cabling, interfacing, control, comms- easier, lower cost or better than this Texmate Tiger product range. Seeing is Believing, go to the website. This will definitely open a new development window for many projects.

- Advanced digital panel meter
- PID controller
- Digital PWM Controller
- Analog and Digital Logger
- Scrolling annunciator message system
- Multi channel timer (seven)
- Analog inputs 4 channels with 100 signal conditioning types
- Analog Outputs 2 channels many conditioning options
- Serial Printer controller
- Field Bus Device ASCII, ModBus, TCP, Devicenet
- Multi meter communications controller
- 22 Channel Opto Isolated I/O interface, control up to 16 SSRs for instance to build a control system
- AC Power measurement and control system
- Program in "Basic" as a functional block, control all of the above and also do full looping "Basic" programs with math, polynomial linearisations, statistics and much more.

- Easier to program than a PLC
- Faster than a process controller
- Smarter than remote or modular I/O
- Better reliability than micros and SBCs
- Outperforms most recorders and data loggers
- Eliminates External Counters, Timers, and Tachometers
- More comms options than dedicated Field Bus Devices
- Greater integration than racks of signal conditioners & transmitters, over 100 different signal interface types.
- Delivers all of the above with faster implementation and for a lower cost, starts at \$700 NZ approx.

www.mastec.co.nz

Visit our Web Site at

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Call MasTec Limited for information on these exciting new products

Flite Training Systems
Edibon Technical Training Systems
Transducers-Gauges and Sensors
OPTO 22 - our biggest product range

Flite Training Systems
www.flite.co.uk

This month I have actually tied to the newsletter a PDF directly from Flite. My good friend Max Soffe, the MD at Flite, is very keen for you all to see this. If you are in a Poly or Uni this may be the quick track into this type of product teaching. OR you may be thinking of jumping technology in your company and need a training aid to get you going quickly. Have a look at the CPLD Trainer Leaflet.pdf

Edibon Training Products
www.edibon.com

Edibon is one of the largest Educational Training Product makers in the world.

They make about 400 different types of apparatus teaching systems, covering Electronics, Physics, Electricity, Communications, Energy, Mechanics, Materials, Fluid Mechanics, Aerodynamics, Process Control, Refrigeration, Food, Photoelasticity, 3D Physics, Environment, Pollution, Energy and much much more.

Look at the website www.edibon.com you will be amazed and impressed if you work in a Poly, Uni or high school.

If you like you may loan from MasTec a complete product CD without laboring on the web.

Edibon is not a new company, they have been in this business for over 25 years and has educational sites world wide. Edibon has asked MasTec to represent them in NZ and we are now seeking sites to place this technical teaching and training equipment into.

Transducers-Gauges-Sensors

Do you know the differences?

If you look on Page3 you will see a listing of our manufacturers and the types of products. This is not exhaustive of course only a taste. Ask for anything special we can produce.

A transducer and a gauge are often very similar. However in both cases, a transducer and or a gauge, converts analog physical parameters (pressure, distance, force, ph, light intensity, colour, sound etc) into electrical readings and with new systems in some cases directly to a digital reading. However the traditional output was an electrical analog either volts or 4-20mAs.

A sensor is some what vague also and can merge into transducers and gauges. It can be said though that a sensor often just senses whether something is present or not. The traditional sensor was a micro switch being moved or a light beam being cut by an object. Now we have laser sensors, inductive, ultrasonic, capacitive, light, switch and more types of sensors. **We handle all types.**

OPTO 22 Classical Stuff
www.opto22.com

If you ask most engineers or sparkies how to handle a furnace control problem they will say use a PID Controller. (We are of course going to change this to a new paradigm of PCM over the next few years using the Texmate 320)

The same is true if you ask electronic engineers how to handle switching AC and DC loads. They will almost always say use an OPTO 22 Solid State Relay.

This is industry standard methods of handling standard power AC and DC switching problems and they work well and are totally robust if used inside specs.

MasTec has sold tens of thousands maybe more of these units, we estimate there are 300K+ OPTO 22 SSR units running in NZ.

So if you haven't seen this before and you are still using contact relays for controlling heaters, motors, lights, any load, please listen up.

OPTO 22 invented Solid State Optically Coupled Relays in 1974. They make a huge range, they are incredibly easy to use, they don't wear out and they do not make loads of RF when they close (none) and they are safe, optically coupled with a 4000VAC barrier and tested to 8000VAC.

You can get hockey puck units that mount directly to chassis, boxes, cabinets that act as the heat sink or for smaller loads you can get back plane mounted SSRs or for PCB horizontal and vertical mount SSRs. All are available for AC and DC switching.

To control them, you can use AC (10-280VAC) or DC (3-32VDC) on the Hockey Puck SSRs. On the smaller units use 3-32 VDC with specific models for 5 VDCTTL, 15 VDC PLCs and 24 VDC Industrial systems.

That maybe as far as you need ever go with OPTO 22. However if you want to build control systems, you can go further and use a PLC, a Controller or a PLC to control these SSRs and a host of analog and digital input modules, to build a complete distributed or localised control and measurement system.

In fact you can make the most powerful of all the distributed I/O systems using these basic building blocks and a little programming with flow charts.

Personal Opportunity

Many of you have seen that I have re-engineered myself over the last 1.5 years. I have lost 26 kgs and am now in great shape. I have even become quite a good "ceroc" dancer (don't laugh please).

Do you need another income stream for your family?

No Inventory - Market in NZ- Aus - The World
Start up cost of \$15 - Work in your spare time only
You ship no products - no hassles
The health of your family will improve
You will work directly with me (Rob Maskell) also.

If you are interested email me at symmetrynz@hotmail.com

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www.mas Tec.co.n

Visit our Web Site at

Call MasTec Limited for information on these exciting new products

Gauges - Transducers - Sensors

- This is a short list of some of the Measurement Categories and Manufacturers

Call if you need a special gauge, transducer or sensor, we will get it.

- 2D & 3D Profiler: [Faro](#), [TIC](#) (TIC Advanced scanners and camera metrics systems)
- Acceleration: [Omega](#)
- Automatic Can Seam Inspection: [Quality by Vision](#)
- Calipers: Inside & Outside Dia, Verniers, Dial Gauges, Micrometers: [Kroeplin](#), [Mitutoyo](#)
- Capacitive Displacement: [Pulsotronics](#)
- Colour Sensing: [Eltrotec](#)
- Density: [Beta Control](#), [Omega](#)
- Eccentric Measurement: [Zumbach](#)
- Encoders: Rotary Absolute, Incremental: [Micronor](#)
- Flow: [Omega](#)
- Force: [Mark-10](#), [Omega](#)
- Gas Analysers and Alarms: [ADI](#), [Alpha](#), [SWS](#), [TIC](#)
- Gravimetric: [ConPro](#)
- Humidity: [Jumo](#), [Omega](#), [Panametrics](#)
- Hall Effect Thickness: [Panametrics](#)
- Laser Displacement: [Pulsotronics](#)
- Laser Frame: [Eltrotec](#)
- Laser Thru Beam: [Pulsotronics](#)
- Laser Profiler: [GRI](#)
- Inductive Displacement: [Pulsotronics](#)
- Linear Cable: Short to extremely long Distances: [Celeco](#), [Unimeasure](#)
- Linear Position: long displacement high Accel/Vel: [Meter Drive](#)
- LVDT: [Omega](#), [Schaevitz](#)
- Metal Detection: [Mettler Toledo](#), [Pulsotronics](#)
- Moisture: [Beta Control](#), [Omega](#), [Wylam Hill](#)
- Motorised Pots: [Micronor](#)
- Non Contact infrared Temperature: [Exergen](#), [Omega](#)
- Non Contact Dimensional Gauging: [Lion Precision](#)
- OptoElectronic Detection: [Pulsotronics](#)
- Paint Thickness: [Wylam Hill](#)
- PH/Conductivity: [Omega](#)
- Plastic and Metal Film Layer Thickness: [Lion Precision](#), [Quality by Vision](#), [TIC](#)
- Pressure: [Omega](#)
- Pressure sensors and Switches: [Jumo](#)
- Proximity Detection: [Pulsotronics](#), [Omega](#)
- Resistive Displacement: [Omega](#)
- Scales & Balances & Check Weighers: [Mettler Toledo](#)
- Switches Geared Limit: [Micronor](#)
- Switches Limit: [Micronor](#)
- Temperature: [DataPAQ](#), [Omega](#)
- Thermostats: [Jumo](#), [Omega](#)
- Ultrasonic Displacement: [Panametrics](#), [Pulsotronics](#)
- Ultrasonic Flaw: [Panametrics](#)
- Visual Inspection: [Quality by Vision](#), [TIC](#)
- Velocity/Speed: [Beta Control](#)
- Wall Thickness: [Kroeplin](#), [Mitutoyo](#), [Panametrics](#), [Zumbach](#)



Magnetic Flow



Force



Pressure



Non Contact Temperature



Laser Micrometer



PH/O2/Conductivity



Proximity



TIC Inspector

Comms RS-232/422/485- USB- Ethernet

MasTec has comms interface and conversion products from [Control](#), [Moxa](#), [Sealevel](#), [Telebyte](#), [Dataforth](#) and others. We work with RF, copper and fiber products.

We stock RS-232/422/485 multiport cards, single and multiport ethernet to serial comms, ethernet & fibre converters, line drivers(short haul modems), protocol converters and analysers, transceivers, isolators and more.



PCMCIA RS-232/422/485



Ethernet Comms Box