

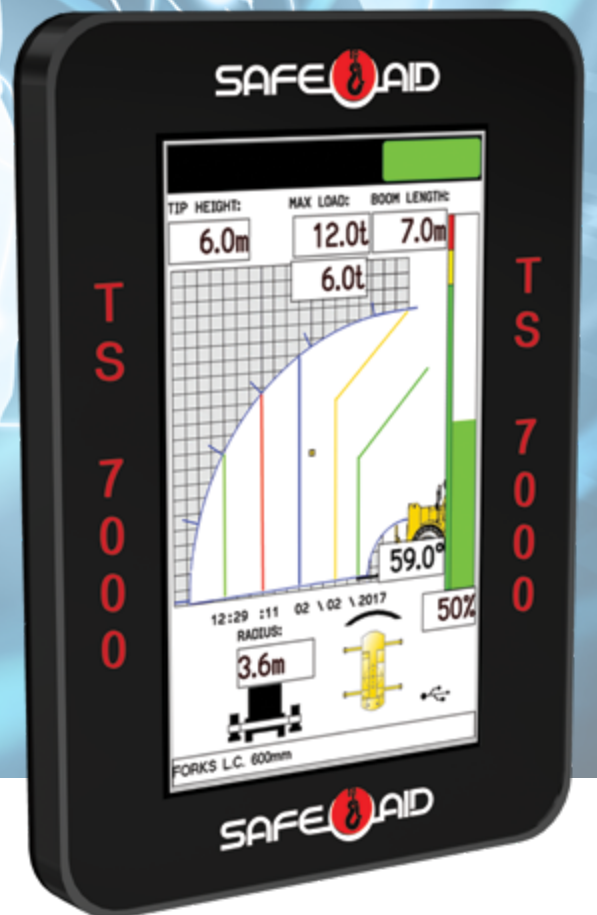


TS7000 CANBUS SAFE LOAD INDICATOR (SLI)  
FOR HYDRAULIC / TELESCOPIC HANDLERS



GLOBAL LEADERS IN MOBILE CRANE / CONSTRUCTION MACHINERY CONTROL SOLUTIONS

INNOVATIVE TECHNOLOGY | EXPERIENCE | GLOBAL SUPPORT ORIENTATED



MANUFACTURING SAFETY SYSTEMS SINCE 1983

# GET A HANDLE ON THE SAFETY OF YOUR MACHINE

- Comprehensive load chart memory
- Rated capacity as MAX load
- Tip height
- Lifted load
- Radius with accurate deflection factoring
- Percentage of rated capacity - % utilisation
- Main boom length
- Angle – main boom
- Telescoping positioning
- 90% & 100% visual & audible warning
- Wind speed (optional)
- Outrigger / stabiliser monitoring
- Slew positioning (if required)
- On-screen telehandler level monitoring / tilt monitoring
- RFID - Auto Attachment Recognition (optional)

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The Safe-Aid TS7000 system is an industry-proven Safe Load Indicator / Rated Capacity Indicator and Safe-Aid is a market leader in safety control systems for Mobile Telescopic and Lattice cranes as well as similar applications such as the Tele-handler and most construction machines requiring load indication.

As one of the leading innovators in technology based crane safety systems and with over 35 years of experience in the field of safe load indication, we pride ourselves in the most up-to-date hardware and software incorporated into the TS7000 Safe-Aid SLI.

Product and system consists of all hardware, consistently updated software, improvement and enhancement upgrades, robust sensors and the tried and tested Touch Screen TS7000 7 inch console combining GUI with OFI (Graphic User Interface with Operator Friendly Interface).

Safe-Aid is service and quality inspired and our team is committed to safety, reliability & leading edge technology in the crane industry. Long term relationships with our clients is our aim and a barometer of our success and furthermore our customers' confidence and surety in our products.

## ADVANTAGES OF INSTALLING A TS7000 SLI

- Excellent HMI console providing Integration of Graphic User Interface and Operator Friendly Interface supports easy operator interaction
- Self diagnostic capability
- Fault reporting as virtual error message or error codes
- Simplified, seamless calibration of all parameters
- Vibration proof and extreme temperature proof including high humidity
- Custom software integration (if required)
- PLC "Real time" integration enabled via CANbus (optional)
- Multiple Telescopic Sections may be monitored and/or controlled
- "On-Screen" momentary override
- Override keyswitch monitoring
- Event recording – data logging enabled
- User limits may be defined by the operator or manager
- High accuracy angle accelerometers
- Streamlined enhancements to fault finding process

## SAFE-AID TS7000 SUPPORTS A LARGE SET OF SLI APPLICATION FEATURES

- Measurement of force using piston and rod side pressure transducers with SLP (Shock Load Protection)
- Wired or wireless outrigger monitoring
- Supports telescopic handler levelling
- Rigging mode enabled
- Wind speed integration
- Telescoping synchronously or asynchronously
- Angle deduction deflection (2 accelerometers)
- RFID for Auto Boom Head Attachment Recognition including auto load chart selection

# SAFE-AID SLI LIFESPAN CYCLE SUPPORT

## TELESCOPIC HANDLER DEFINITION

- Load Chart
- Telescopic Handler Geometry
- Serial Number
- Inspection
- Software Initiation
- Retrofit or OEM Prototype

## SYSTEM CALIBRATION

- Radius Optimization
- Load Accuracy Trimming
- Length/Angle Calibration
- Sensor's Calibration
- Menu Driven Settings Adjusted

## TELESCOPIC HANDLER COMMISSIONING

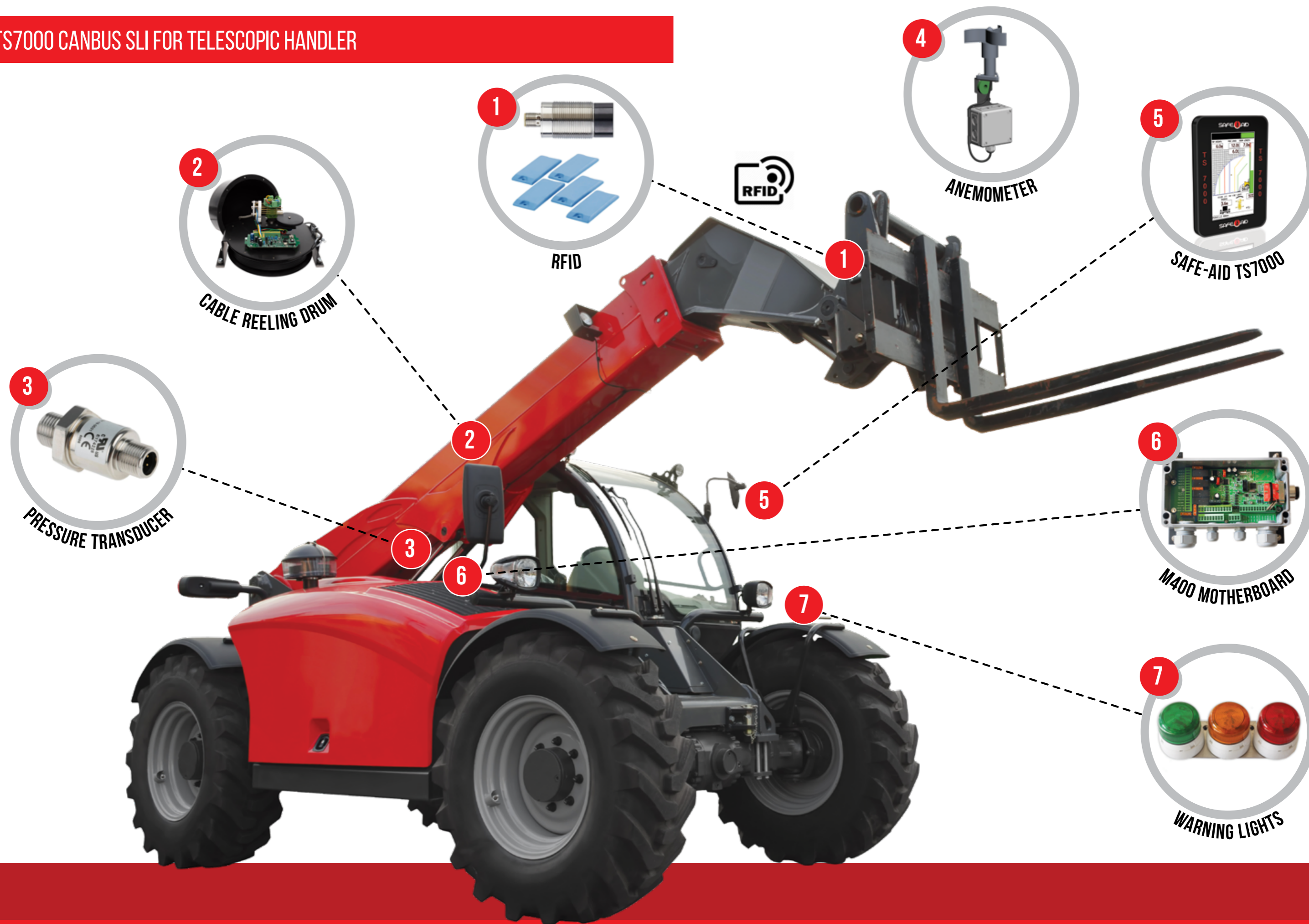
- Load Testing
- Minor Adjustments
- Operation with Weights
- Sign off

## SERVICE & UPDATE

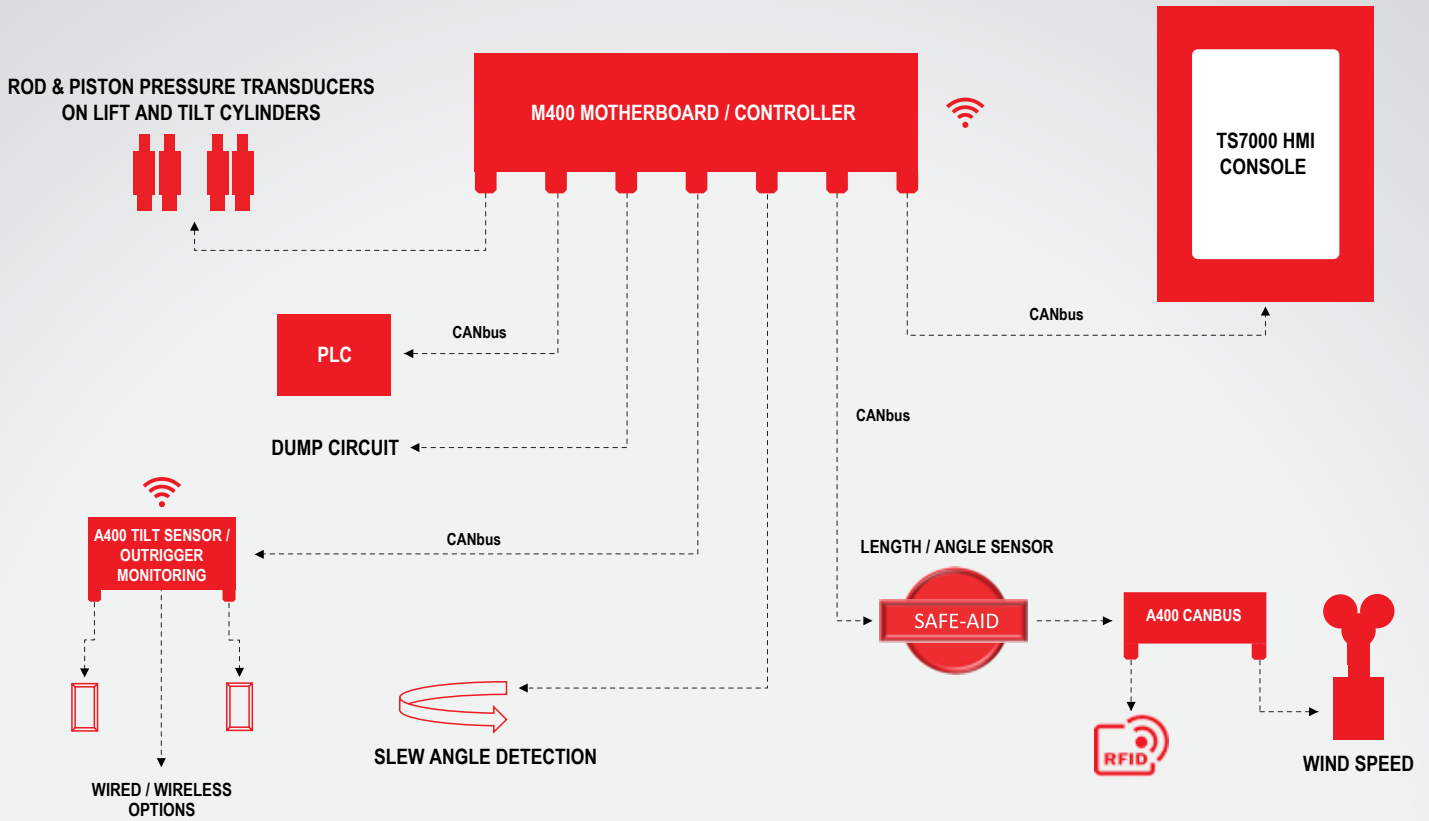
- Regularly Service
- Regularly Calibrate
- Software Enhancements
- Hardware Upgrades
- Maintenance Support

Consider the Safe-Aid TS7000 a long term investment – immeasurable safety & support throughout the life of your telescopic handler.

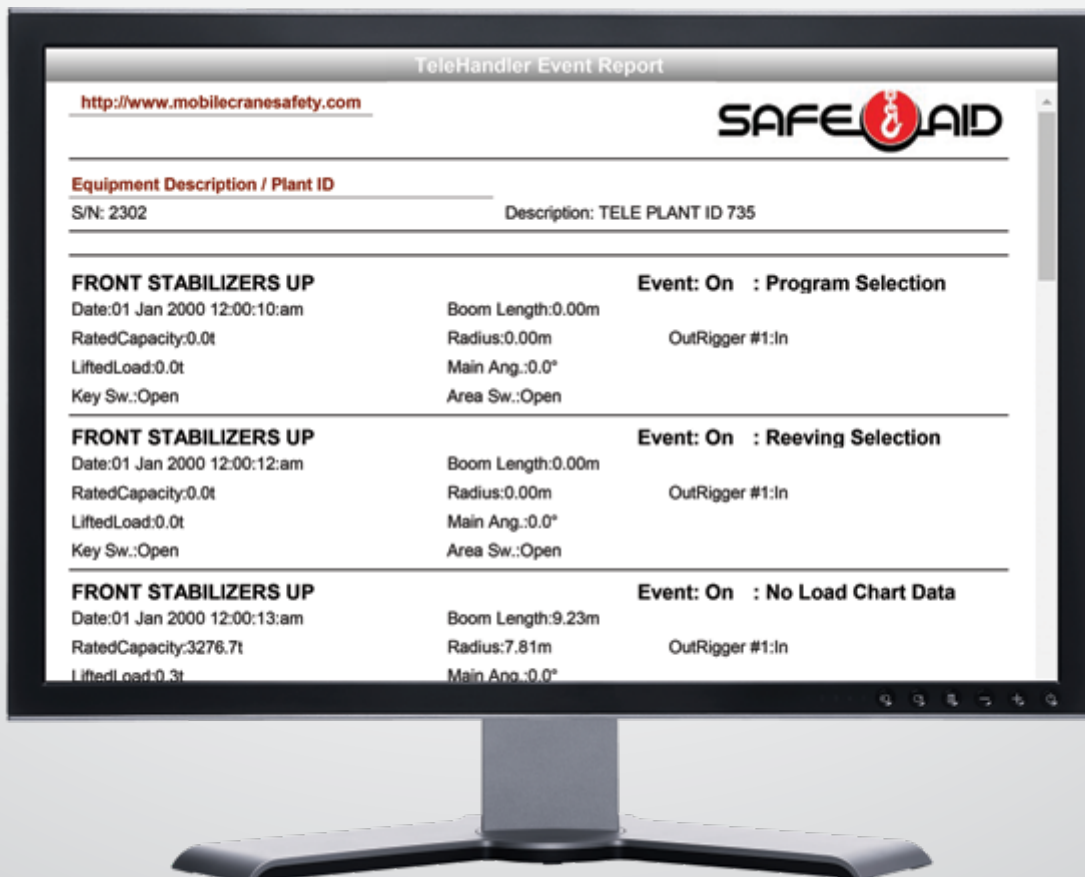
# TS7000 CANBUS SLI FOR TELESCOPIC HANDLER



# SAFE-AID TS7000 TELESCOPIC HANDLER SLI SYSTEM BASIC SCHEMATIC



# SAFE-AID TS7000 TELESCOPIC HANDLER LOG REPORT



# TECHNICAL SPECIFICATIONS

## TS7000 DISPLAY UNIT

- 10-48 VDC Input Voltage
- 7" TFT Colour Capacitive Touch LCD
- Graphical Colour Screen – 256,000 Colours
- Display Resolution – 800 x 480 Pixels
- 91 x 152mm Viewing Area
- CNC Machined Nylon Bezel with Powder Coated Sheet Metal Back Box
- Replaceable Transparent Touch Screen Protection Sticker
- CAN Bus or MOD Bus Communication
- USB A Device Port for Software Upgrade or Data Logging
- External USB Connector for Data Logging (Optional)
- 85dB Audible Alarm
- Real Time Clock for Data and Error Logging Timestamps
- IP55 Protection (BS7262 5.7)
- Outside Dimensions 145 x 203 x 55mm (L x W x H)

## M400 MOTHERBOARD

- 10 – 33VDC Input Voltage
- Phoenix Contact Spring Terminals
- Fuse Protected Input Voltage – 2Amp
- 4 x Optically Isolated Digital Inputs (Optional) (PNP or NPN User Selectable)
- 1 x Load Cell Input (mV Input) 5V Excitation
- 4 x Inputs Built in any Combination of 4-20mA or 0 – 5VDC Analogue Input
- 1 x 10 Amp Relay Output (Potential Free Contact) with Fault Reporting (Dump/Auto/Cut Off) – 5 Amp Fuse
- 3 x 10 Amp Relay Outputs (Potential free contacts) – 3 x 5 Amp Fuses
- Monitored & Fuse Protected Key Switch Input for Dump/Auto - Cut Off Relay
- CAN Bus and/or 2.4Ghz Wireless (Optional) Communication
- USB A Device Port for Software Upgrade
- Power LED, CPU Running LED and Communication Status LED
- IP66 Glass Fibre Reinforced Polyester Enclosure
- Outside Dimensions 220 x 120 x 100mm (L x W x H)

## PRESSURE SENSOR

- 4-20mA Output
- 0 – 600 Bar Measuring Range
- IP67 M12 Connector
- High Pressure Hydraulic Fitting
- Pressure Spike Restriction
- Outside Dimensions 50 x 22 x 22mm (L x W x H)

## ANEMOMETER / WIND SPEED METER (OPTIONAL)

- Measuring Range 0.5 to 50 Meters per Second (2 – 200 Kilometres per Hour)
- Black Technical Plastic body with Robust Flexible Rotor
- High-Quality Stainless-Steel Bearings
- Self-Levelling Mounting Bracket
- IP65 Environmental Protection
- Outside Dimensions 125 x 125 x 315mm (L x W x H)

## CABLE REELING DRUM

- IP65 galvanised powder coated steel enclosure with galvanised spring assembly
- Spring driven cable reel with anti-run back feature to prevent damage to spring if cable is broken
- Simple length cable replacement procedure
- Length measurement using a 10-turn potentiometer geared for accuracy (Optional)
- Angle Measurement Using a High Sensitivity Multi Axis Accelerometer (Accuracy  $\pm 0.1^\circ$ )
- 2 x Load Cell Input (mV Input)
- 2 x 0 - 5 VDC Inputs (Standard) or 2 x 4-20mA Inputs (Optional)
- 3 Analog Inputs Maximum can be Configured and used Simultaneously
- 1 x 4K7 Sensing Input for Anti-2-Block Input (Can be Built as Optional Optically Isolated Digital Input)
- 3 x Optically Isolated Digital Inputs (PNP or NPN User Selectable)
- CAN Bus and/or 2.4Ghz Wireless (Optional) Communication
- RFID for Boom Head Auto Attachment Recognition Including Auto Load Chart Selection
- 4-Track slipring - MAX Current rating per track - 1.0A @ 24VDC
- Vibration proof and tested at extreme temperatures including high humidity (-20 to 70°C)
- Laser Cut 1.5mm Neoprene Gasket for IP65 protection
- Outside Dimensions 325 x 260 x 210mm (L x W x H)

## R400 INPUT OUTPUT BOARD (OPTIONAL)

- 10 – 33VDC Input Voltage
- Phoenix Contact Spring Terminals
- 6 x 10Amp Relay Outputs (Potential Free Contacts)
- 6 x 5Amp Fuses
- 8 x Optically Isolated Digital Inputs with LED Status Indication (PNP or NPN User Selectable)
- USB A Device Port for Software Upgrade
- CAN Bus and/or 2.4Ghz Wireless (Optional) Communication
- IP66 Glass Fibre Reinforced Polyester Enclosure
- Outside Dimensions 220 x 120 x 100mm (L x W x H)

### QUALITY



Management System  
ISO 9001:2015



www.tuv.com  
ID 9105087034

## TS7000 SAFE LOAD INDICATOR SLI

### INVEST IN YOUR TELESCOPIC HANDLER

- Telescopic handler pays off the entire system within only months
- Current and future developments and trends employed with software updates
- A high quality, complex yet simple solution
- Minimization of repair and maintenance costs due to quality of all system components
- You not only procure a system but our experience and lifelong support
- Guaranteed constant enhancements and upgrades for the safety of your Telescopic handler
- Understanding of turnaround times

### SAFETY A PRIORITY

- Operator friendly HMI console allows for easy operation, minimal input
- System with watchdog constantly monitoring operation
- Step-by-step guidance throughout the operation of the telescopic handler
- Virtual graphical interface highly readable and interpretation made easy with real telescopic handler graphic configuration
- Telescopic handler profile software and parameters a mirror image of OEM load chart and specifications
- Cut out on all errors – early warning enabled (if machine is factory fitted with dump system / cut out valves)
- Safety risk of selecting wrong program or mode is minimized

### EASY CALIBRATION PROCEDURE

- Constant improvements to easy calibration procedures
- User friendly menu driven calibration procedure and setup
- Cost reduction in time of calibration
- Specific Telescopic Handler Profile uploaded and kept in secure database
- OEM or retrofit Telescopic Handlers
- Installation manuals with step by step instructions streamline installation and calibration
- Calibration stored values protection

### SUPPORT

- Basic problems or issues serviced via telephonic or email support line
- Reduced software update time
- Technical experience spanning decades
- Turnaround time consideration
- Hardware designed for easy replacement or upgrade
- Support throughout the lifecycle of the telescopic handler
- Commitment and service orientated backup

