M-TRONIX BRAMCO

SAFETY INNOVATORS

M-TRONIX BRAMCO
YOUR PROVEN PARTNER FOR CONVEYOR CONTROL

Leaders in Innovative Protection Systems

From 1945, M-Tronix Bramco products are the results of a relentless focus on the design and manufacture of innovative electronic control, protection, monitoring and safety products including mine energy distribution and protection, mine switchgear, mining conveyor control, mining communications and purpose designed electronic safety equipment.

We welcome your contact and the opportunity to partner with you for best outcomes.

w: www.m-tronix.com.au

e: info@m-tronix.com.au

t: 0435939513

Conveyor Control Management System (CCMS)

CONVEYOR CONTROL

M-Tronix Bramco is proud to announce the recent completion of our CCMS Signal Line Conveyor Control and Manage- ment System on several overland conveyors in central Queensland. The CCMS signal line was selected as a safety monitoring system for these conveyors which ranged in length from 1.5km (4950 feet) to 21km (69,300 feet).

M-Tronix Bramco is the only company with the ability to control systems over 40km in length from one system and one location. We provide multiple stop start controls and the HOW, WHEN, WHERE & WHY the conveyor is tripped. We currently have a wide number of intergrated solutions available, all of which may be customised to suit your needs and your budget.

Our CCMS offers:

- Start/Stop Control
- Stop/Start stations at up to 200m
- Monitored Pre-Start Warning (Audible and Visual)
- Sequencing
- Mains Power Isolation
- Operating temperature range of -30 to +60°C
- Temperature Compensation devices (stretching and contracting of cables)
- Pull Wire operation on both sides of the conveyor
- Temperature compensation of Pull Wire Operation
- Voice Communications
- Voice Synthesizer Fault Broadcast
- 4000 or more monitored points all from one totally fail safe system over distances of 25km plus

We focus on providing industry best practise and unique features and with over 300 systems now operating around the world M-Tronix Bramco has the conveyor control and monitoring solutions for you.

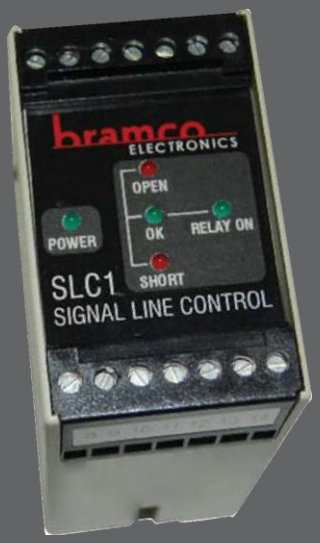
has achieved and continues to engage industry experts to provide current approvals, certificates and compliances to relevant Australian and International Standards.

These include:
- AS1755
- AS4024
- AS61508
- IP66

System 1 (SLC1)

CONVEYOR CONTROL

System 1 (SLC1)



The SLC1 module has been designed to provide simple and reliable conveyor control via a 2 wire Signal Line of Stop and Wander switches and Blocked chute switches.

SLC1 is a simple low voltage stop start conveyor control relay for use on conveyors of up to 600 Meters where no monitoring is required.

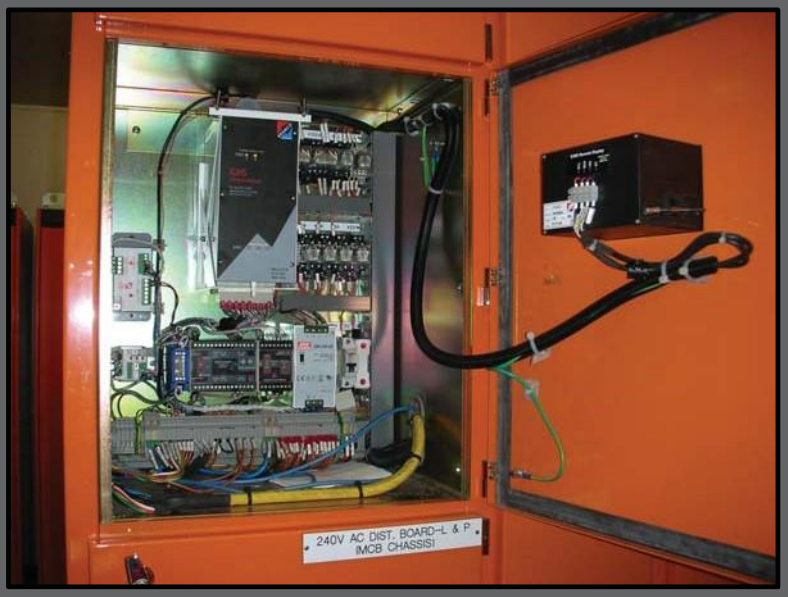
The maximum signal line loop resistance is 150 Ohms.

The output voltage of the relay is 24Volt AC and requires a terminating diode at the end of the signal line.

This relay is fail safe in operation with protection against short circuits on the line.

System 2 (SLC2)

CONVEYOR CONTROL



System 2 (SLC2)

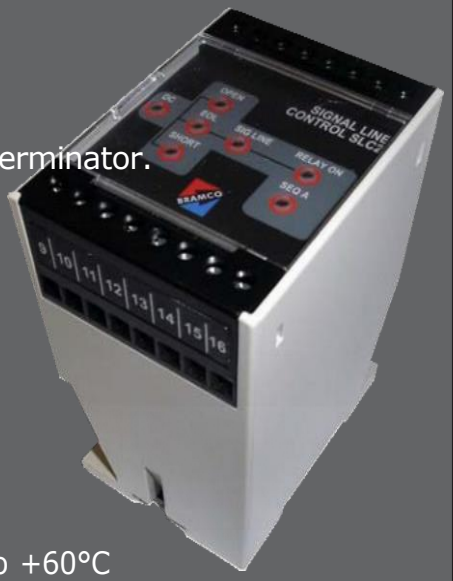
The M-Tronix Bramco SLC2 system is a basic tripping and sequencing safety system primarily used for conveyor applications.

The SLC2 is used for signal line control of a conveyor over 2 wires, using a fail-safe SLC2 End of Line termination, with sequencing to the EOL module, and also side-sequence when required.

SLC2 is a low voltage stop start conveyor signal line control relay capable of controlling conveyors over 25,000 Metres in length.

The output control voltage of the relay is 24Volt DC and the maximum loop resistance of the signal line is 500 ohms.

The line is terminated using a M-Tronix Bramco electronic terminator.



SLC2 is fail safe in operation with short circuit detection inbuilt and is designed to operate with M-Tronix Bramco Electronics monitoring relays.

SLC2 has circuitry to provide sequencing of equipment (other conveyors) along the length of the signal line.

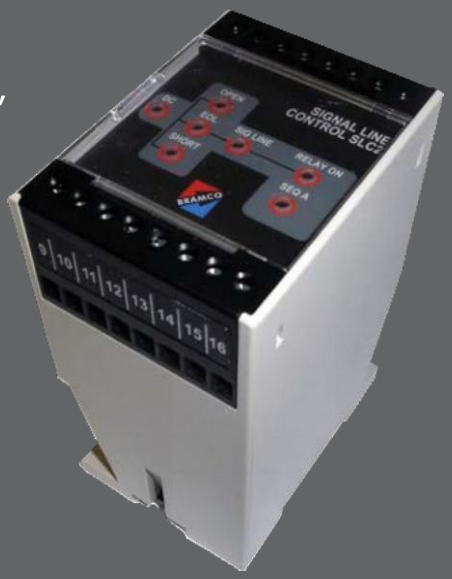
The unit has an RS485 communications output port.

This system is proven over operating temperatures of -30° to +60°C

System 3 (SLCM2)

CONVEYOR CONTROL

System 3 (SLCM2)

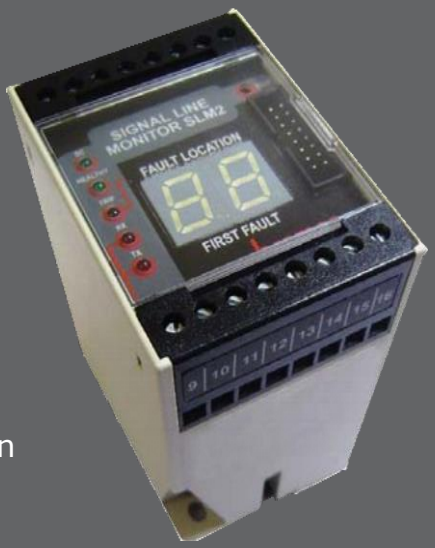


The M-Tronix Bramco SLCM2 system provides tripping, sequencing and monitoring and is primarily used for conveyor applications.

SLCM2 is a low voltage conveyor signal line control and monitoring system consisting of SLC2 stop start relay combined with SLM2 ANALOGUE switch monitoring.

The system requires 2 cores only in the signal line cable and is capable of monitoring up to 45 stop locations over a maximum distance of 4,500 Metres.

A small bug is fitted to each trip device which identifies the location of the trip.

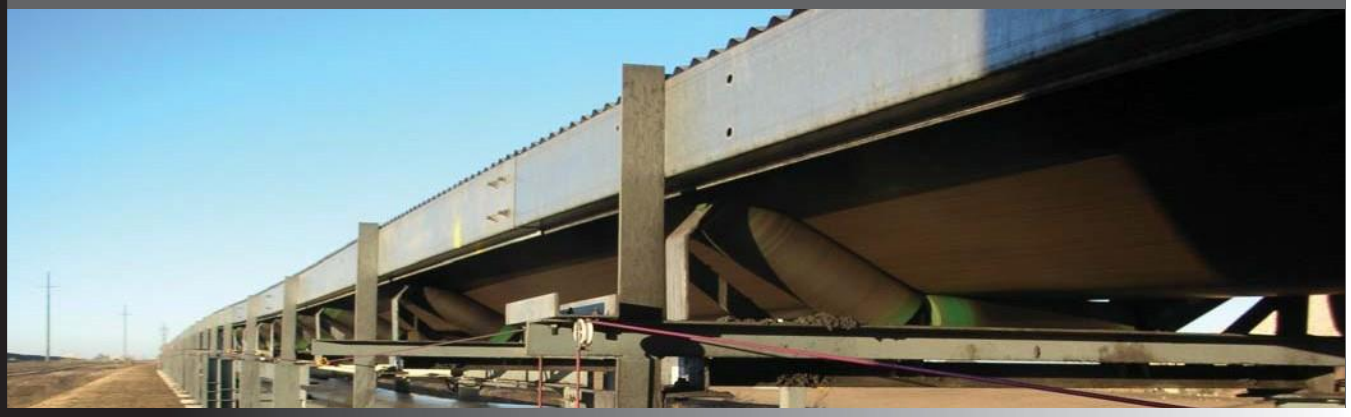


Being a 2 wire system only the first trip location is displayed.

All bugs are identical requiring no set up during installation.

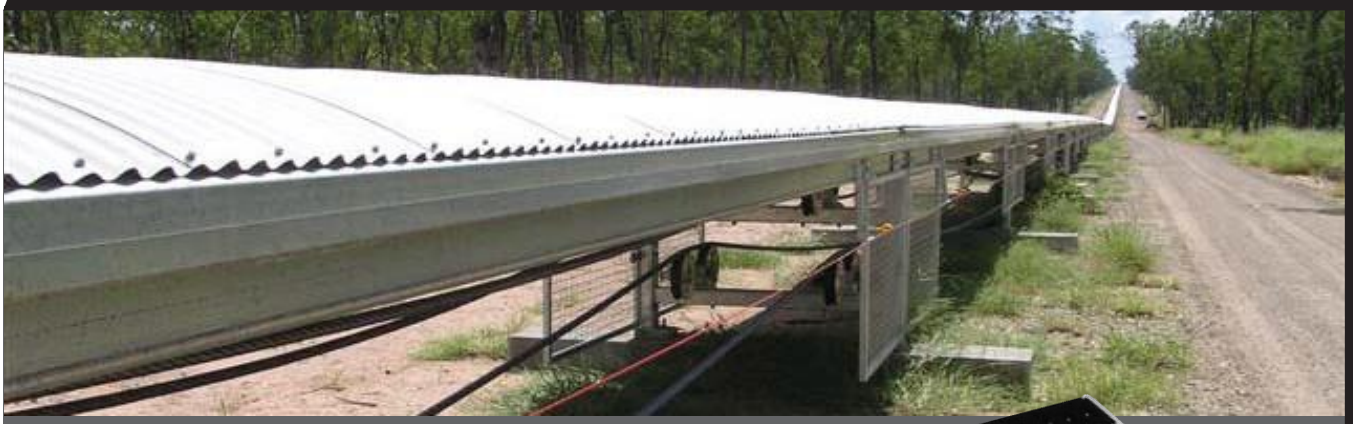
The SLCM2 system has an RS485 communications output port providing line status and stop location to be transmitted to a control room via an installation main control unit such as a PLC.

This system is proven over operating temperatures of -30° to +60°C



System 4 (SLCM3)

CONVEYOR CONTROL



System 4 (SLCM3)

The SLCM3 is a low voltage conveyor signal line control and monitoring system consisting of SLC2 stop start relay combined with SLM3 DIGITAL switch monitoring.

The system requires 2 cores only in the signal line cable and is capable of monitoring over 250 stop locations on conveyors over 25,000 Metres.

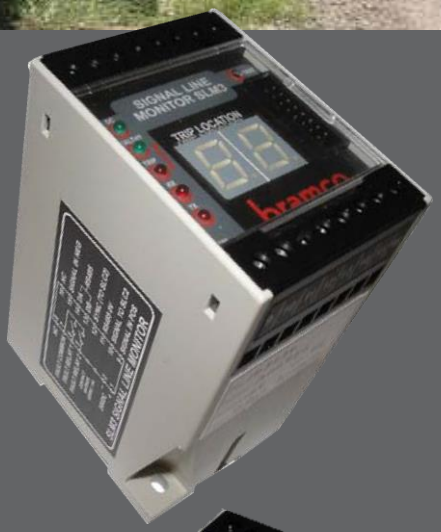
A small digital bug is fitted to each trip device giving it a unique address which identifies the location point of the trip.

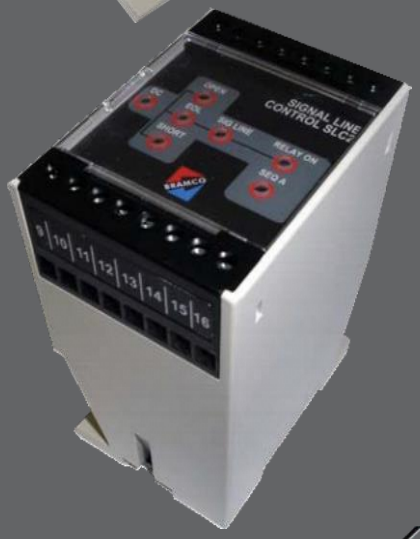
Being a 2 wire system only the first trip location is displayed.

All bugs are identical and require only a location number to be allocated during installation via the two hexadecimal rotary switches on the front of the bug.

The SLCM3 system has an RS485 communications output port providing line status and stop location to be transmitted to a control room via an installation main control unit such as a PLC.

This system is proven over operating temperatures of -30° to +60°C





System 5 (CCMS)

CONVEYOR CONTROL

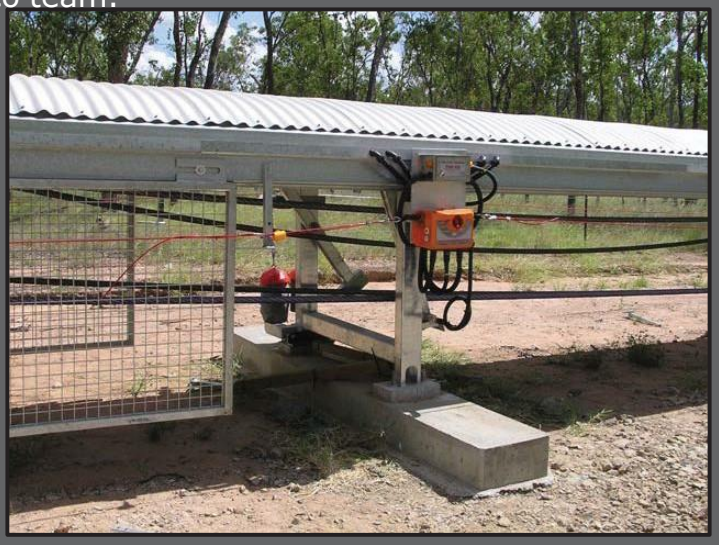
System 5 (CCMS)

The M-Tronix Bramco Conveyor Control Management System uses the power and versatility of the ICMS module to provide safe conveyor operation. The CCMS system provides absolute flexibility and has been designed to meet the requirements of the
different types of conveyors in industry.

The M-Tronix Bramco CCMS Signal Line Control and Monitoring system is the ultimate in conveyor signal line control. The CCMS provides a fully intergrated operating package including stop start control, emergency stop control, continuous monitoring of over 250 trip/stop locations each with over 10 digital and/or analogue trip points per location, monitored Pre Start Warning for the full length of the system, broadcast Voice warning and update Communication along the full length of the system, system status Voice Synthesiser broadcast along the system and instigation of Remote Isolation of ALL motive power from the drive system with isolated confirmation indication to the requestor.

The system can operate over unlimited conveyor lengths, has a maximum output control voltage of just 28Volt DC and requires either a 4 core or 6 core cable depending on customer requirements. Typical cable diameter is 14mm²

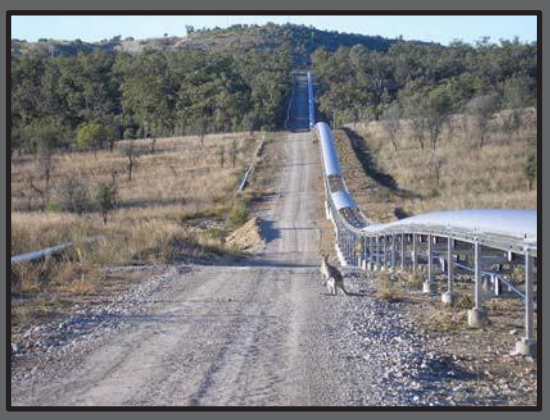
The controller comes complete with the inbuilt electronics and software as a total package. M-Tronix Bramco provides as part of this fully integrated package its own Pullkey emergency trip switches, its own amplifier units in addition to prestart alarms and other accessories.These are all designed and manufactured by the M-Tronix Bramco team.



System 5 (CCMS)

CONVEYOR CONTROL

System 5 (CCMS) Cont.



M-Tronix Bramco conveyor control systems have been designed to operate over a temperature range of -30ºC to +60ºC. M-Tronix Bramco has the ability to correct any errors introduced to the pull wire system due to changes in temperature. We offer temperature compensation hardware in conjunction with our BK400 pull wire switches where these are fitted to a system, one of the many M-Tronix Bramco industry firsts.

The BK400 pull key emergency trip switch is large enough to permit the making off of all cables at each location and contains the electronics for the system.

No junction boxes are needed. The BK400 has facilities for over 40 internal terminal connections. The unit is of metal construction and may be supplied as double ended, single ended or in a balanced double ended configuration.

All BK400 keys accommodate slack or taught pull wire systems.

M-tronix Bramco has control solutions ranging from the simply short quarry conveyors to the longest and most complex of overland conveyor installations.

They range from the simplest safety stop system to systems which incorporate the very latest in requirements and features. We focus not only on industry best practise and unique features, but also on reliability and 24 hour support.

With over 300 systems in operation our equipment is tried and proven, of very latest technology and are all fail safe and designed to comply to the very latest Safety Integrity Levels.

ICMS Control & Display

Pre Start Warning Alarm

BK400 Trip Switch

ABOUT

About M-Tronix Bramco

M-Tronix Bramco is one team made up from its core business components.

These include:
- Operations
- Engineering
- Technical Services
- Customer Support

Our conveyor control customers benefit from the support of our Research and Development and our Technical Services teams. A brief overview of these components follows.

Operations

The introduction of the latest automated assembly technologies will provide increased production capacity and enhance product quality in line with QA guidelines.

Research and Development

With a proven record in research and development, M-Tronix Bramco continues to inject over 35% of turnover back into this important division. M-Tronix Bramco has recently upgraded its product range whilst maintaining our focus on development under exclusive contract or consultancy with our customers.

Technical Services

Under the experienced guidance of our Service Manager the technical support division controls Our Service Division and provides field support for conveyor systems.
This includes customer support, equipment audits, preventative maintenance, equipment upgrades, project execution management, commissioning and troubleshooting.

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