

UNIVERSAL INTEGRATED POINTS DRIVE UNIT

The Universal Integrated Points Drive Unit is designed to meet the safety critical requirements for safe passage of a train set over a turnout. ACTOM Signalling design and manufactures the Universal Drive in South Africa.

Recent years have seen the introduction of new generation turnouts, both double slip and single slip, as supplied to Transnet Freight Rail and PRASA. ACTOM responded with modular new generation points machines that provide safety, reliability and cost effectiveness.

The Universal Drive Unit can be used with existing rail mounted clamp locks or the newly developed Integrated Sleeper Based Points Machine.

The stroke of the linear actuator allows for all switch blade openings.

Design

The Universal Drive Unit is housed in a weatherproof, hot dip galvanised housing. The lid incorporates a vandal proof locking mechanism which, once removed, gives free access to all components.

Major components housed within the unit are:

- Standard 380 V, 3 phase, AC motor.
- Operating control contactors.
- Incoming mains Isolator.
- Terminals.
- Electromagnetic Brake.
- Ballscrew operated linear actuator.
- Crank handle entry cut-out switch.

Operation

Electrical: With an authorised interlocking points call from the CTC for normal or reverse operation, the motor control contactor within the drive unit will operate applying voltage to the motor. Once the



set end position is obtained, positive end of stroke detection is made.

This in turn removes the call to the coil of the contactor cutting the motor voltage. The operation can be interrupted or reversed at any time during the operation.

Mechanical: The linear actuator, which converts rotation into linear motion, is coupled onto the motor shaft via an adjustable clutch. At the end of stroke, an electromagnetic brake stops and holds the rotating shaft. This prevents vibration from allowing the shaft to rotate. The brake releases once power is applied for the next throw.

in the event of a power failure, a standard crankhandle may be used for manual operation. Inserting the crankhandle, a cut-out switch disconnects the motor

then a manual brake release lever is activated, allowing manual cranking of the set.

Application

Rail mounted clamp locks:

The Universal Drive Unit may be used to drive rail mounted clamp locks. Clamp locks do not require rodding or cranks and provide:

- Safe, positive locking of the blades to the stock rail.
- Positive detection of set end positions.
- Safer and faster passage of trains.

Integrated Sleeper Based Points Machine: The Universal Drive Unit is the standard drive unit for this compact, robust and cost effective points machine. Refer to brochure on the Integrated Sleeper Based Points Machine.

SIGNALLING

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