

**Model
K885**

Bulletin 245

Digital Monitoring System



Multi-Station Display and Automatic Monitoring
Measures Speeds, Draws, and Currents
Fast and Accurate to 0.01% with 1 second Updates
Reduced Installation Costs – Minimum Wiring
Optional Machine and Drive System Diagnostics
Ideal on Continuous Web Machines with Multiple
Controlled Sections
Stores Speed Data for 118 Hours or More for Evaluation
Monitors Up to 64 Sections at One Time

Application

The Avtron Model K885 Speed/Draw System is intended for drive controlled sectional machines, line shaft machines, or for use on several machines at once. The system accepts information from rotary pulse generators, and displays speeds and draws, at different remote stations installed on the serial link.

When the K885 is used with a K891 Video Master Station, the system measures all inputs simultaneously, instead of sampling them. This enables the system to immediately alert operators in the event of speed upset. Alarms can be set-up if speed or draw varies relative to another speed on the machine or in absolute terms. Separate limits can be set-up for each input.

In addition, the K885 can send information to the K891 Video Master to print out information subsequent to web breaks or alarms, or upon operator request, to assist in

diagnosing drive problems or locating problems elsewhere on the machine.

The K885 is more economical to install than previous systems, and is easier to interface to millwide data collection systems.



K885 Features

The K885 measures speed or draw to 0.01%, with a 1.0 second update time.

Percent speed or draw resolution does not degrade at low speeds, because the ± 1 count error is eliminated.

No programming or formula calculation is required. All initial set-up is performed with a keyboard. The system prompts the user through calibration and set-up procedures in English-language entries.

Section nomenclature may be entered and displayed alpha-numerically, eliminating the need for engraved plates.

Provides cost savings because a single system, with or without target/alarm features, can be used on several machines simultaneously.

All interconnections between stations are by four-wire link, easy to install.

When used with a K891 Video Master Station the K885 system provides the following:

Data storage is 118 hours for 64 speed sections for superior machine troubleshooting and evaluation.

Measures all sections continuously and quickly detects any upset. Each section can maintain a target as an absolute value, or relative to any specified section, or as a draw. Different limits can be set for different sections. When an input deviates beyond the limit, the operator is alarmed.

Hard copy printouts which include histories of inputs prior to a sheet break, prior history of any section causing an upset, plus a summary of events, sheet breaks, or alarms on demand.

Reliability & Maintenance

Unlike most digital instruments, the K885 is designed for use in mill environments (as opposed to ordinary industrial environments), where the air is hot, humid, and has trace amounts of corrosive pulping and bleaching chemicals, sulphur compounds, water-soluble oil, dust, or carbon black.

There are no exposed contacts in the system. The K885 uses fewer printed circuit boards than any previous

system and all boards are coated and varnished. Contacts are gold plated, not silvered, to minimize failures. The K885 DCU cabinet is totally enclosed, non-ventilated, and requires no internal fans or air conditioning.

The K885 includes complete built-in-self test functions, to assist in calibration, set-up, and internal diagnostics.

K885 Readout/Selector Stations

The K885 can be provided with four types of remote readout/selector stations. All are designed to be intelligible to production personnel and are ruggedized for installation in rough environments, such as near paper machines. Installation is via a 4-wire serial link.

Standard Remote



"Standard Remote" readout:

- Simple keypad operation
- Display section data by direct entry of section or number
- Display section data by increment/decrement from one section to another
- Bright LED display
- Available with an extra large LED display (EXTRABRITE™ shown in photo)

Video Master Station



K891 Video Master:

- Color display of speeds, draws, currents, limits, alarms, and trending
- Limits customized for each section for alerting of out of target operation
- Speed data retrieval for 118 hours and beyond
- Graph speed vs. current trending
- Machine operation profile
- Web break detector inputs

Compact Remote



K885 Remote Selector Station readout:

- Compact, easy installation
- Reads all Speeds and Draws
- Membrane Keyboard for data entry and selection
- Communicates through a four-wire serial link to main computing unit

Dedicated Draw/Speed/Draw



The dedicated Draw/Speed/Draw readout:

- Internally configurable readout
- Designed to monitor one section's speed
- Provides upstream and downstream adjacent draw information in one of three draw modes

Input Transducers

The K885 can measure speeds or draws to an accuracy of 0.01% each 1.0 second when used with most Avtron pulse generators.

There are 5 basic types of Avtron Pulse Generators that can be used for input to the K885.

Foot or NEMA 56C faced mounting: Avtron models include M737, M738A and our M485 SMARTach™ with replaceable and intelligent sensors.

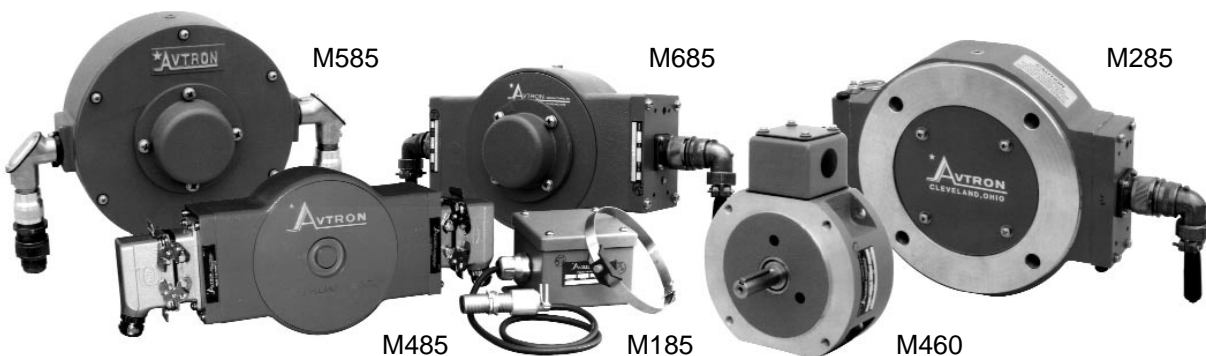
SLAPTach™: Mounts on the back of a DC motor and requires no bearings or couplings. Available in the

standard model M190 series, or the SMARTach version, model M285.

SHAFTach™: The model M585 or SMARTach version, model M685 mounts on a stub shaft without requiring couplings. Ideal for AC motors.

SANDWICH Tach: Mounts between an analog tach and the motor. Models available are the M460 and M560.

UNIPULSER™: The model M185 is a cost effective, one pulse per revolution tach that is ideal on line shaft machines. Mounting and alignment are simple.



K885 Specifications

K885 Functions: **Basic System** – Speed/Draw Display, simultaneous measurement of all inputs, simultaneous and independent display at each readout.

Diagnostics – Add K891 Video Master station, to get targets, alarms, and printout capability to basic system.

Inputs: 16, 32, 48, or 64 frequencies. Avtron pulse generators or UNIPULSERS™ from 1 to 10,000Hz.

Speed Measurement Resolution: With Pulse Generator: 0.1 FPM with 1.0 second count time to 2500 FPM, better than 0.01% at higher speeds, or UNIPULSER.

Optional Displays: Dedicated Displays – Speed and two adjacent draws.

Remote Stations – Display speeds, draws (in difference, percent, ratio selectable from station) and nomenclature.

Compact Remotes – Display any speed or draw. (No limit to quantity and mixture of above stations.)

Setup: No programming required. Nomenclature and calibration information is entered in Digital Computing Unit (DCU). System calculates its own calibration number based on input of roll diameter, etc. Limits and targets entered from master station.

Interconnection: RS422 Serial Link to minimize connections and allow system additions.

K885 Environment: 0°-60°C (32°- 140°F) 5-95% RH

K891 Video Master Station (Optional)

K891 Functions: Displays section variables plus target and deviation from target of each section, alarm limit, any section outside of limit.

Inputs: The K891 monitors up to 64 speed sections. Using a K663 converter, it monitors up to 32 currents and 32 speeds. 8 web break detectors can be connected to the K891.

Print Format: 132 column printer provides following:

Break Report – Provides precise history of each section's deviations, to 0.1 FPM or 0.01%, automatically upon a web break.

Machine Profile – Speed profile or zero suppressed speed profile (deviation).

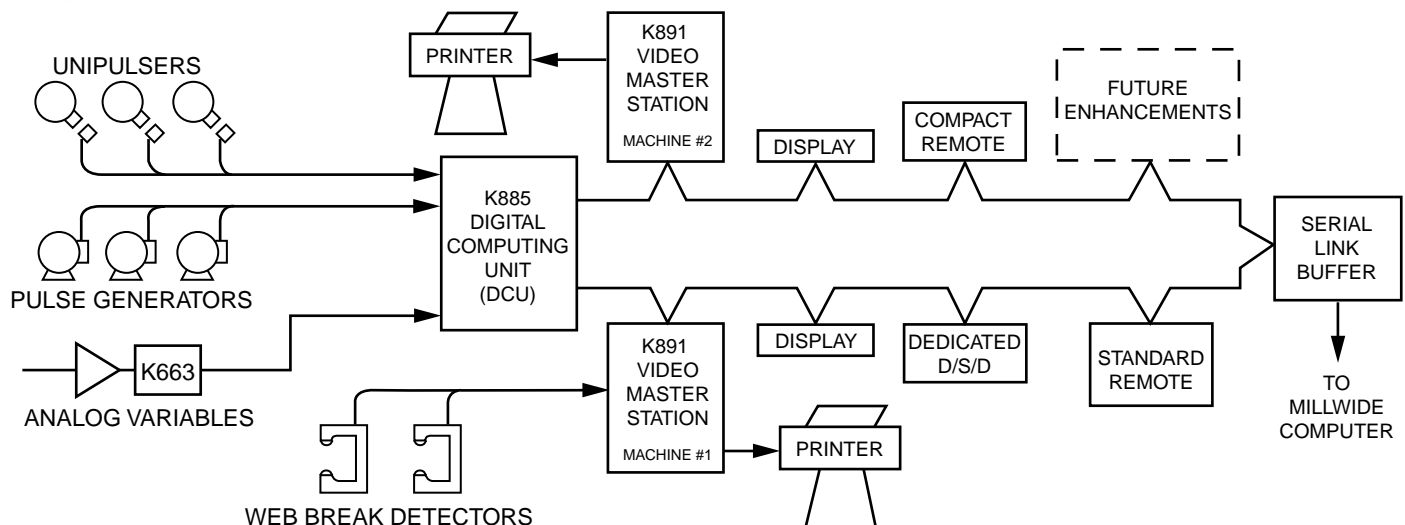
Web Break Summary Report – Printout of detector number and name, time, date, and duration of break for the last 20 breaks.

Alarm Summary Report – Printout of date, time, recipe name, section number, section name and duration of alarm in hour/ minute/ second, in tabular form for the last 20 alarms.

Event Log – Upon demand, prints time and type of last 1000 events; out of limit, return to limits, breaks (where occurred) and operator target set up.

K891 Environment: 0°-45°C (32°- 115°F)

K885 Block Diagram



The K885 offers unparalleled flexibility due to its 4-wire serial link and distributed processing. The system can be expanded virtually without limit. Future developments can in all likelihood be added to existing systems without replacing installed hardware.



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