

Sheet Break Detection

Smart-ONE Sheet Break Detection System™

RYECO's **Smart-ONE Sheet Break Detection System™** is a complete system for reliable break detection under any condition or environment. The system operates in Open Draw, Sheet-on-Fabric or Sheet-on-Roll applications. The Smart-ONE detects breaks at **distances of up to 30 feet (approximately 10 meters)** ensuring the sensors stay out of the way and unaffected by collateral damage from the web path.

The **ONE-9010 Sensor** contains a high-intensity LED that gives the sensor its long range capabilities. It utilizes proprietary technology that simultaneously measures color, contrast and texture of the moving web.

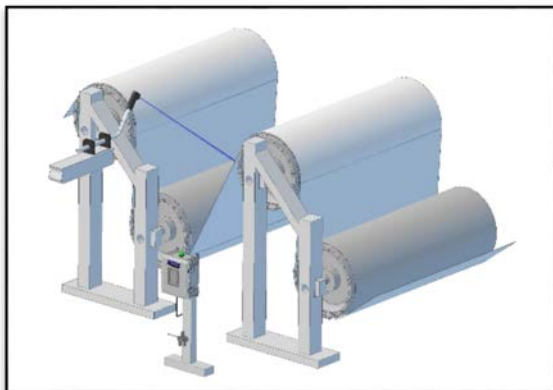
RYECO's new **Smart-ONE Sheet Break Detection System** is a giant leap in performance, function and features.

Smart-ONE System Features include:

- One Button Setup
- Auto Calibrate Maintenance Alarms
- Break Trigger Value Override – In situations where there is steam present or close color combinations, the Automatic Break Trigger value can be set manually.
- Last Break Value – The system always displays the Last Break Value and saves a trend of this value for up to 30 days.
- Sensor Temperature Monitor
- Time Stamp of all Breaks -is restored and is recorded and saved for months.
- Modbus TCP – Easily interfaces to existing mill control systems.
- Patented Air Purge – Keeps the sensor cool and free of debris.
- Password Locked Maintenance Settings
- **30 Feet (Approximately 10 Meters) Sensing Range – Offers the longest sensing range in the industry.**
- Proprietary Color, Contrast and Texture Sensing Method – A custom-made amplifier that is only available from RYECO.



Figure 1: This sensor is installed in on the machine frame parallel to the paper path. This is a paper on felt application. Detection distance is 4 feet (1.2 meters) from the web.




The Smart-Box is available in either a single (SSI) or dual sensor cabinet (DSI). When a dual sensor cabinet is used the sensors can act independently or both sensors must agree (voting). This cabinet is compatible with our legacy EXT-9003 Sensor for those that want a "universal" cabinet solution. This allows for a single common control box for all locations on your machine resulting in reduced inventory and system commonality.



Figure 2:
Recommended
Mounting

Specifications

ONE-9010 Break Sensor™

	ONE-9010 Sensor 50 180 006 
Sensing Range:	Up to 30 feet (Approximately 10 meters)
Construction:	Hard-coat anodized aluminum body & nose cone
Maximum Operating Temp: (with cooling air)	400° F (204° C) With adequate cooling air
Integrated Temp. Sensor:	YES (Alarm point 75°C 167°F)
Maximum Operating Humidity:	99% RH (no condensation)
Air Consumption:	1 CFM (28.3 LPM)
Response Time:	100 milliseconds
Operating Light:	High-Intensity White LED
Analog Output:	1 (0-10 VDC output)
Digital Input:	1 (NPN input) Remote Set
Operating Voltage:	24 VDC
Power Consumption:	135 mA

Smart-BOX

Type:	 Smart-BOX Single Sensor Interface (SSI) 50 280 101	 Smart-BOX Dual Sensor Interface (DSI) 50 280 102
Control Cabinet Size:	15.41" x 13.40" x 7.84" (391.3 mm x 340.5 mm x 199.2 mm)	
Certified:	UL/cUL 508A and UL/cUL 50AE UL/cUL types 3R, 4, 4X, 12 Nema types 3R, 4, 4X, 12 IP Rating: IP68	
Construction:	Polycarbonate	
Maximum Operating Temperature:	140°F (60°C)	
Maximum Operating Humidity:	95% RH (no condensation)	
Power Feed:	100-240 VAC (.5-1 amp)	
Output Contact:	Dry Contact 6 Amp Maximum	
System Power Contact:	1 NO / 1 NC	
Break Contact:	1 NO / 1 NC	2 NO / 2 NC
Maintenance Contacts:	1 NO / 1 NC	2 NO / 2 NC
Pre-terminated Sensor Cable Length:	50 Feet (15.2 Meters) (other lengths available)	