



T.O.S.S.[®]

The Optimum Sealing System

PIREG[®] Series Controllers

In-Cabinet Mounted
Analog & Ethernet/IP Protocols



Perfect Seals... Every Time

www.tossheatseal.com



PIREG Series Controller Specifications



PIREG-C2



PIREG-C2E

Controller Type	PIREG-C2	PIREG-C2 EtherNet/IP
Features Applications	PLC Interface	EtherNet/IP Interface
Control Loop	Primary	Primary
Auto Zero Calibration	via PLC Interface	EtherNet/IP Interface
Auto Optimization	Yes	Yes
Auto Freq. Adjustment 47... 63Hz	Yes	Yes
Set Point Selection	via PLC Interface	EtherNet/IP Interface
Analog Output for Actual Temp.	Yes	Yes
Temperature Range	300°C/500°C Fixed	300°C/500°C Fixed
Heatsealing Band Alloy	A20C @ 1235ppm/A20K @ 862ppm L @ 746ppm/Norex® @ 4830ppm Variable from 400... 9999	A20C @ 1235ppm/A20K @ 862ppm L @ 746ppm/Norex® @ 4830ppm Variable from 400... 9999
Alarm Indication	LED	LED
Alarm Output & Fault Diagnosis	Yes	Yes
Alarm Output Invertable	Yes	Yes
Modifications Available	Yes	Yes
Preheat Function	Via analog command	Via EtherNet/IP Command
Compatible with	RES-407 + MOD26	RES-5011

The center of TOSS Technology is the PIREG Heatseal Temperature Controller.

PIREG Series Controllers are conveniently “in-cabinet” Din-Rail mounted with temperature ranges up to 500°C depending on the unit and voltage ratings of 115, 230, & 400 VAC.

The PIREG-C2 and C2E are equipped with analog or EtherNet/IP™ interfaces respectively. These interfaces can be used to control all the controller functions and poll controller information. The ACTUAL temperature of the heat sealing band is supplied to the analog or EtherNet/IP™ interface as well as to an analog 0 to 10V DC output. The real heat sealing band temperature can thus be displayed on an external temperature meter. To increase operational safety and interference immunity, all interface signals are electrically isolated from the controller and the heating circuit. Either coding switches on the temperature controller itself or the digital interface can be used to adapt to different heat sealing band alloys (TOSS Alloy-20®, NOREX®, etc.) and set to the required temperature range (0... 300°C, 0... 500°C etc.).

Extremely precise and fast measuring technology is essential in order to accurately determine and control the temperature of a heatsealing band. In a sealing system with a PIREG temperature controller, this is done without sensors by measuring the band voltage and current. This measurement is repeated fifty or sixty times a second. By taking the voltage and current values, the actual temperature can then be calculated from the heatsealing bands resistance characteristics. The primary voltage of the transformer is adjusted by phase-angle control if the measured values deviate from the set point. The resulting change in the current through the heatsealing band leads to a change in the band resistance and thus also its temperature. This change is measured and evaluated by the PIREG temperature controller, which then increases or reduces the temperature accordingly. Even minute thermal loads are immediately detected and can be corrected quickly and precisely. Separate, slow-to-respond temperature sensors (e.g. PT100) are thus a thing of the past.

EtherNet/IP™ is the standard for industrial networking in automation. These protocols connect devices, systems, and cells, facilitating faster, safer, less costly and higher quality manufacturing. It easily integrates existing systems and equipment while bringing the richness of digital interface down to the factory floor.

EtherNet/IP networks provide plant-wide network systems using open, industry-standard networking technologies. It enables real-time control and information in discrete, continuous process, batch, safety, drive, motion, and high availability applications. The EtherNet/IP network connects devices such as motor starters and sensors to controllers and HMI devices and on into the enterprise. It supports non-industrial and industrial communications on a common network infrastructure.

The PIREG controllers are specifically built with the high response and precise control needed for sealing the wide variety of polymeric films used in contemporary packaging.

Precise control assures easy validation because every sealing cycle will be the same, minute to minute, day to day, year to year. High response allows more cycles per minute because the heatseal band can be energized and brought to the exact sealing temperature before the jaw bars close. Precise control eliminates temperature overshoot, extends heatseal band life, and aids in the preservation of anti-stick cover strips.

The PIREG-C2 EtherNet/IP Temperature Controller only acts as an adapter in an Ethernet/IP network. Control of the PIREG-C2 EtherNet/IP with explicit messaging is not supported.

Be sure to call our TOSS Application Engineers for any assistance you may need in configuring your system.



FREE 9 Steps to Heatsealing Perfection Order your free booklet and learn more about why TOSS Technology is unique. Visit our website: www.tossheatseal.com

TOSS Machine Components, Inc.

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