# Allen-Bradley 80190-540-05-R

## 01 Function and selected configuration

### Product function

Allen-Bradley 80190-540-05-R supports maintenance of the thermal feedback chain. A credible temperature reading depends on the sensor, board power and optical return path, so signal loss must be separated from a real cooling problem.

### Selected configuration

The coated TFB forms part of a PowerFlex 7000 temperature-feedback installation. The measurement path includes a temperature sensor, the powered feedback board and an optical link to the drive interface. The complete -05-R identity must be matched to the installed hardware; another TFB suffix is not an automatic substitute.

### Functional path

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|---|---|---|---|
| Temperature sensor | Coated TFB | Optical return path | Drive thermal diagnostics |

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|---|---|
| Board function | Temperature feedback (TFB) |
| Surface protection | Conformal coating |
| Diagnostic boundary | Sensor, board power and optical feedback path |

In the applicable drive arrangement, inverter heatsink channel A returns to RX7 on FOI-M-A, while rectifier channel A returns to RX7 on FOI-L-A. The optional rectifier channel B uses RX7 on FOI-L-B and is not enabled on every drive. These are system connection references, not an assertion that this board is fitted in every channel.

# 80190-540-05-R / Technical operating envelope

## 02 Technical operating envelope

| | |
|---|---|
| Board function | Temperature feedback (TFB) |
| Surface treatment | Conformal coating |
| System feedback transport | Fiber-optic path to the applicable FOI receiver |
| Inverter channel A reference | FOI-M-A, receiver RX7 |
| Rectifier channel A reference | FOI-L-A, receiver RX7 |
| Optional rectifier channel B | FOI-L-B, receiver RX7; configuration dependent |
| Inverter thermal warning setting | P316, applicable drive configuration |
| Inverter missing-feedback codes | Fault 180 when stopped; warning 220 while running |

Receiver assignments and code numbers are conditional system diagnostics, not board electrical ratings. No sensor curve, standalone supply or generation-specific extra channel is invented.

### Thermal evidence

A loss of optical information does not establish excessive heat. A valid high-temperature measurement directs attention to cooling and loading; a missing or implausible measurement directs attention to the sensor, board power and optical path.

### Generation control

The original TFB function is temperature feedback. Later TFB3 systems can add gate-power data. Keep that extra capability conditional until the installed board generation and firmware are confirmed.

# 80190-540-05-R / System integration and applications

## 03 System integration and applications

### Inverter thermal monitoring

Restore an approved inverter sensor-to-interface chain and confirm a plausible stopped-drive temperature.

### Rectifier cooling diagnosis

Separate excessive heatsink temperature from a loss of feedback before changing protection settings.

### Optical feedback restoration

Check receiver assignment, fiber seating and cable condition after maintenance in the power-converter cabinet.

### Sensor fault isolation

Compare the indicated temperature with the actual cooled condition and inspect sensor connection and resistance under the service procedure.

### System and supply context

This service board is used within a compatible PowerFlex 7000 thermal-feedback chain. Sensor type, optical channel and board revision must match the installed design.

### Application boundary

The channel references and alarm behavior below describe the drive system. They do not establish a universal board temperature range, sensor characteristic or TFB3 capability for every TFB.

### What should be checked when the chain using Allen-Bradley 80190-540-05-R loses its optical signal?

Check board and receiver power, fiber seating and cable condition, then the sensor connection. The failure can occur outside the feedback board.

# 80190-540-05-R / Engineering selection decisions

## 04 Engineering selection decisions

### Does Allen-Bradley 80190-540-05-R have conformal coating?

Yes. The -05-R service assembly is the conformal-coated TFB configuration.

### Which inverter receiver is relevant when integrating Allen-Bradley 80190-540-05-R?

For the applicable channel A arrangement, the receiver is RX7 on FOI-M-A. Confirm that this is the installed circuit before connecting the board.

### How does the inverter missing-feedback response affect a system using Allen-Bradley 80190-540-05-R?

The applicable drive diagnostics distinguish fault 180 while stopped from warning 220 during running. Diagnose the missing signal without assuming that the reading is an overtemperature.

### Does the name TFB prove that Allen-Bradley 80190-540-05-R monitors SGCT gate supply?

No. Gate-power monitoring is a generation-dependent TFB3 function and must be confirmed for the installed hardware and drive firmware.

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|---|---|
| Verify sensor seating | A disconnected temperature sensor can appear as either a sensor fault or optical-feedback loss. |
| Keep thermal settings | Do not raise alarm or trip thresholds to hide an unexplained temperature reading. |

# 80190-540-05-R / Configuration boundary and references

## 05 Configuration boundary and references

### Lifecycle and support

Active. The conformal-coated TFB is a repairable/replaceable service product; the available service route depends on the individual unit and support arrangement.

### Replacement assessment

Match the full -05-R reference and installed feedback configuration. Do not infer TFB3 gate-power monitoring or interchangeability with another TFB revision from the family name.

### Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains configuration and selection boundaries. The independent installation guide organizes preparation, connection, testing and handover. It does not replace the applicable manufacturer installation instructions.

### Technical basis

Rockwell Automation PowerFlex 7000 Troubleshooting Guide, 7000-TG002L-EN-P.

### Related product navigation

- Allen-Bradley 80190-220-01-R
- Allen-Bradley 81000-199-53-R
- Allen-Bradley 81007-465-51-R

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries