



12th April 2006

Attention Mine Electrical Engineers

RE: AMPCONTROL INTEGRATED PROTECTION RELAYS

There has recently been an event involving Ampcontrol's IPB Integrated Protection relay.

The event occurred in a QLD underground coal mine where a tradesperson installed an IPB Relay 180° out of position into the relay mounting base. The relay was installed into a flameproof 1100V load centre and when energised with 1100V supply, it resulted in 1100V being connected to an outlet automatically without the outlet start button being operated. An Exd dummy plug was installed into the outlet at the time preventing an incident occurring.

When the tradesperson attempted to stop the outlet, the outlet stop switch failed to operate, ultimately power was disconnected when the 1100V main circuit breaker was turned to the off position.

As a result of this event Ampcontrol performed a review of the load centre and the damaged relay to identify the possible causes of the event reported.

Outcomes :

The IPA, IPB, IPC and HPB series relays have directional locators integral to the moulding on both the relay and the mounting bases to prevent the relay from being installed in the wrong position.

As a result of this event it has been identified that if excessive force is applied to the relay, the directional locators on the base can be damaged and the relay forced into the relay mounting base 180° out of position.

If the relay is installed in this position it results in the CBR and MCR trip contacts of the relay being bridged allowing the main circuit breaker and outlet contactor to close.

A review of Ampcontrol's records was made to determine if any previous events had been reported of a similar nature since the introduction of the IP series relays in 1992. The review identified that no previous events or incidents had been reported resulting from relays being incorrectly positioned into mounting bases.

Actions :

The recommended immediate action is for all mines to review the installation procedure with appropriate staff and train any that are unfamiliar with the installation of an IPA/IPB/IPC relay.

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A reference for correct fitting of the relay is to match the direction of the printing on the relay face with that on the base of the relay. Please refer to the attached drawing.

Mines should check the condition of the mounting bases and relays to ensure the directional locators are undamaged. Any damaged bases of relays should be immediately replaced before the unit is placed back into service.

All newly manufactured IPB, IPC and HPB relays will be supplied with the following;

- A key guide fitted to the base of the relay which will allow the relay to be inserted in the correct orientation only.
- A warning label fitted to the relay to advise users on the correct alignment of the relay in the base.

In addition it is recommended that older relays should be upgraded as they are periodically returned to Ampcontrol for AS3800 repair or overhaul, as part of this overhaul Ampcontrol will provide;

- A key guide, for fitting by the end user, to the relay base.
- A detailed set of instructions for fitting the key guide (please refer to the attached "quick guide")
- Modification of the relay to accept the key guide and fitting of alignment label.

Note;

Ampcontrol also wishes to remind all users that it is recommended practice that spare or unused outlets on load centres and substations should be fitted with insulated 'Dummy' Plugs to ensure that in the event of a contactor, relay or control circuit failure that operators are protected from possible electric shock or arc fault.

If you have any questions or would like any further advice please contact Ampcontrol Electronics Division – Warners Bay NSW or at our QLD Service centre located in Mackay.

Yours sincerely

AMPCONTROL PTY LTD



ROD HENDERSON
OPERATIONS MANAGER

Attachments:

- Drawing showing the correct orientation of the relay to the base.
- Instructions for fitting of key guide.

