

TI 77J00B01-01E

■ Introduction

This document discusses points to consider in regard to preventive maintenance of signal converters sold by Yokogawa Electric. The discussion made herein assumes that these signal converters are used under typical environmental conditions.

For details on installation environments, refer to the specifications document for each product.

■ Models under Discussion

The models under discussion are standard models in the Scott and JUXTA series.

■ Typical Installation Environment

Ambient temperature: Please refer to the general specifications of products.

Ambient humidity: 5 to 90% RH (non-condensing)

Other conditions: Avoid using signal converters in environments where they may be exposed to any of the following: Mechanical shock, vibration, corrosive gas, water, flammable objects, intense radiational heat, intense ultraviolet rays, and electromagnetic fields<

■ Items Subject to Preventive Maintenance

Component	Service Life	Method of maintenance	Models Supported
Aluminum electrolytic capacitor	8 years	Pick-up repair (Unit-by-unit blanket replacement)	JUXTA, Scott
Torque motor assembly	8 years		Electric to Pneumatic Converters
Fuse	3 years		Scott
	8 years		JUXTA
EEPROM	100,000 writings		Models containing EEPROMs
Alarm output relay	100,000 make-break operations with resistive load		Converters fitted with alarm setting unit or alarm option

The service lives shown in the table are rule-of-thumb values. It is advisable that unit-by-unit blanket replacement be implemented in a planned manner even during the item's service life.

■ Repair Considerations

This section discusses points for consideration in regard to repairs (parts replacement) that involve soldering work.

Recent signal converters employ a method of double-sided mounting of parts on printed circuit boards, in response to the spread of surface-mounted components and the market demand for miniaturization. Thus these converters use a considerable number of such components.

From the viewpoint of the production process however, Yokogawa aims to manufacture products of uniform quality by means of, for example, automatic soldering. In addition, the patterns on printed circuit boards have been made increasingly finer and denser in order to meet the demand for miniaturization. This trend toward miniaturization requires highly skilled soldering techniques when a particular component alone has to be replaced. As a result, it has become more and more difficult to use conventional methods of parts replacement.

Under these circumstances, Yokogawa recommends that products that have been used for a prolonged period be subjected to unit-by-unit blanket parts replacement, in order to maintain the level of reliability at which the product in question was initially manufactured. Yokogawa understands that the content of maintenance depends on the time and the budget allowed by the customer for maintenance purposes, or on the importance of the loop under consideration. However, having said that, Yokogawa still requests that customers take maintenance requirements based on the above-discussed points into consideration, and to understand the importance of unit-by-unit blanket parts replacement.