

99 SERIES

COIL INDICATION AND MODULE PROTECTION FACILITIES



- LED module: to indicate presence of voltage across coil
- DIODE module: to protect coil from back EMF
- LED + DIODE module: to indicate presence of voltage across coil and protect coil from back EMF
- LED + varistor module: to indicate presence of voltage across coil and protect coil from back EMF
- RC circuit module



99.01



99.44



99.73



99.80

DIODE MODULE	FUNCTIONS	OPERATING RANGE	CODE	CODE	CODE	CODE
	<p>Recovery diode modules are used for DC only. The negative cut-off voltage peaks of the coil are short circuited by the recovery diode (positive to terminal A1). The drop-out time increases by an approximate factor of 3. If an increase of the drop-out time is not wanted use a Varistor or RC module.</p>	6 - 220 V DC	9901.3000.00	9944.3000.00	9973.3000.00	9980.3000.00
DIODE INVERTED POLARITY						
	<p>Recovery diode modules are used for DC only. The negative cut-off voltage peaks of the coil are short circuited by the recovery diode (positive to terminal A2). The drop-out time increases by an approximate factor of 3. If an increase of the drop-out time is not wanted use a Varistor or RC module.</p>	6 - 220 V DC	9901.2000.00	9944.2000.00	—	—
LED MODULE						
	<p>LED modules are used for AC and DC. The LED indicator lights up when the coil is energized. When using DC it is essential that positive is connected to terminal A1.</p>	6 - 24 V DC/AC 28 - 60 V DC/AC 110 - 230 V DC/AC	9901.0024.59 9901.0060.59 9901.0230.59	9944.0024.59 9944.0060.59 9944.0230.59	9973.0024.59 9973.0060.59 9973.0230.59	9980.0024.59 9980.0060.59 9980.0230.59
DIODE MODULE + LED						
	<p>Recovery diode modules + LED are for DC only. The negative cut-off voltage peaks of the coil are short circuited by the recovery diode (positive to terminal A1). The drop-out time increases by an approximate factor of 3. If an increase of the drop-out time is not wanted use a Varistor or RC module. The LED indicator lights up when the coil is energized.</p>	6 - 24 V DC 28 - 60 V DC 110 - 220 V DC	9901.9024.99 9901.9060.99 9901.9220.99	9944.9024.99 9944.9060.99 9944.9220.99	9973.9024.99 9973.9060.99 9973.9220.99	9980.9024.99 9980.9060.99 9980.9220.99
DIODE MODULE + LED INVERTED POLARITY						
	<p>Recovery diode modules + LED are for DC only. The negative cut-off voltage peaks of the coil are short circuited by the recovery diode (positive to terminal A2). The drop-out time increases by an approximate factor of 3. If an increase of the drop-out time is not wanted use a Varistor or RC module. The LED indicator lights up when the coil is energized.</p>	6 - 24 V DC 28 - 60 V DC 110 - 220 V DC	9901.9024.79 9901.9060.79 9901.9220.79	9944.9024.79 9944.9060.79 9944.9220.79	—	—
LED MODULE + VARISTOR						
	<p>LED modules + Varistor are used for both AC and DC coils. The cut-off voltage peaks of the relay coil are limited by the Varistor to approximately 2.5 times the nominal voltage of the module. When using DC coils it is essential that positive is connected to terminal A1. The relay drop-out time increases only insignificantly.</p>	6 - 24 V AC/DC 28 - 60 V AC/DC 110 - 230 V AC/DC	9901.0024.98 9901.0060.98 9901.0230.98	9944.0024.98 9944.0060.98 9944.0230.98	9973.0024.98 9973.0060.98 9973.0230.98	9980.0024.98 9980.0060.98 9980.0230.98
RC MODULE						
	<p>Rc circuit modules are used for AC and DC coils. The cut-off voltage peaks of the relay are limited by the RC module to approximately 2.5 times the nominal voltage of the modules. The relay drop-out time increases only insignificantly.</p>	6 - 24 V AC/DC 28 - 60 V AC/DC 110 - 230 V AC/DC	9901.0024.09 9901.0060.09 9901.0230.09	9944.0024.09 9944.0060.09 9944.0230.09	9973.0024.09 9973.0060.09 9973.0230.09	9980.0024.09 9980.0060.09 9980.0230.09
REMANENCE						
	<p>Bypass modules are advisable, if the relay coils do not drop-out between 110-240 V AC. Failure to drop-out can be caused by residual currents from AC proximity switches or inductance couplings caused through long parallel lying AC control lines.</p>	110 - 230 V AC	9901.8230.07	9944.8230.07	9973.8230.07	9980.8230.07