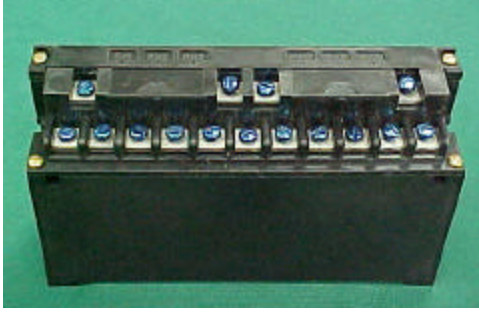


SPECIFICATIONS



SOLENOID LOGIC CARD IC3645TMM5A

Application

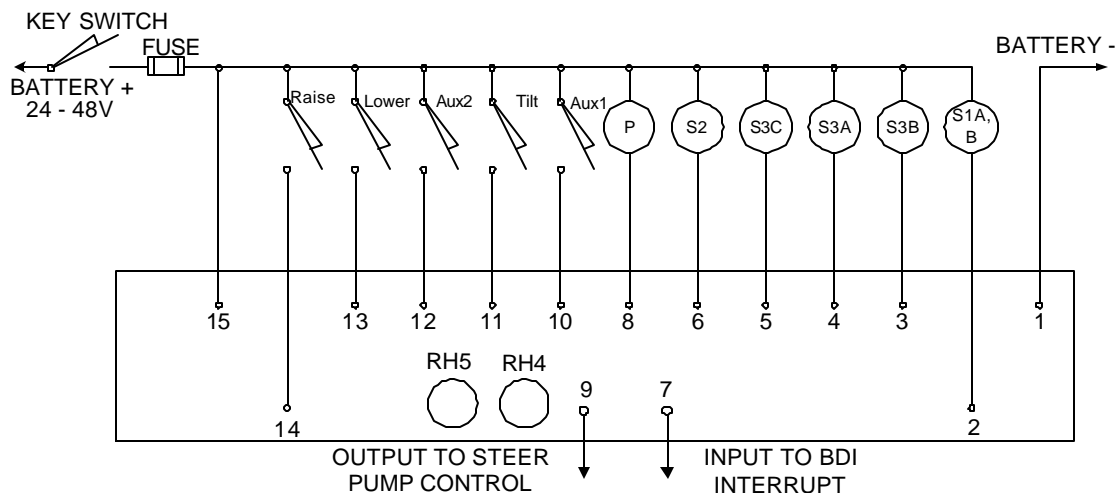
The solenoid logic card controls the functions and fluid flow of the hydraulic system of the industrial truck in which it is installed. While the hydraulic control or contactor controls the actual speed at which a function is completed, the solenoid logic card directs the flow of hydraulic fluid to perform the desired function, in response to switch inputs. Addition of the solenoid logic card to the system enables the

elimination of complicated latches and relays, simplifying the system and providing possible cost savings to the user.

Functions and Features

- The five switch inputs of the card must be switched to battery positive.
- The five switch outputs of the card complete the path to battery negative and can be controlled independently.
- As a safety feature, the card monitors outputs for open circuits when they are in the off or neutral state to prevent operation of the hydraulic system when an open circuit is detected.
- Another safety feature prevents operation of the hydraulic system when excessive current is detected in the outputs
- To prevent unpredictable responses, the card views an invalid input as no input, and does not respond.
- The card provides an interface to the lift interrupt function of the traction control.
- The card provides hydraulic system diagnostics information to the user via two LED's (located beneath cover, labeled as RH4 and RH5). If either LED is lit, the card will not operate.
 - RH4 lights when there is an invalid input switch condition, i.e. a state not defined by the truth table (pins 10, 11, 12, 13 or 14).
 - RH5 lights when the BDI interrupt input is not 12V (pin 7), or if one of the output terminals is open. The check of the outputs is made when they are off. The card verifies that battery volts are present at pins 3, 4, 5, 6 and 8.
 - RH4 and RH5 will both light if an internal solenoid driver transistor is shorted.
- Reverse battery protection prevents needless component damage from an incorrect battery connection.
- Internal coil suppression for all solenoids eliminates the need for external suppression.

Typical Connection Diagram



Truth Table

IC3645TMM5A											
Input/Output	Switch Inputs					Solenoid Outputs					
	Raise #1	Lower #2	Tilt #3	Aux1 #4	Aux2 #5	#1 Pump	#2 S2	#3 S1A,B	#4 S3A	#5 S3B	#6 S3C
Terminal Board	14	13	11	10	12	8	6	2	4	3	5
Function											
Neutral	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Lift	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
Lower	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Tilt Back	OFF	OFF	ON(M)	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
	ON	OFF	ON(M)	OFF	OFF	ON	ON	ON	ON	OFF	OFF
Tilt Forward	OFF	OFF	ON(M)	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
	OFF	ON	ON(M)	OFF	OFF	ON	ON	ON	ON	OFF	OFF
Aux1 Back	OFF	OFF	OFF	ON(M)	OFF	OFF	OFF	ON	OFF	ON	OFF
	ON	OFF	OFF	ON(M)	OFF	ON	ON	ON	OFF	ON	OFF
Aux1 Forward	OFF	OFF	OFF	ON(M)	OFF	OFF	OFF	ON	OFF	ON	OFF
	OFF	ON	OFF	ON(M)	OFF	ON	ON	ON	OFF	ON	OFF
Aux2 Back	OFF	OFF	OFF	OFF	ON(M)	OFF	OFF	ON	OFF	OFF	ON
	ON	OFF	OFF	OFF	ON(M)	ON	ON	ON	OFF	OFF	ON
Aux2 Forward	OFF	OFF	OFF	OFF	ON(M)	OFF	OFF	ON	OFF	OFF	ON
	OFF	ON	OFF	OFF	ON(M)	ON	ON	ON	OFF	OFF	ON
ON = Switch Closed OFF = Switch Open ON(M) = Momentary Switch Closure											
Momentary switches must always be actuated prior to up/down switch.											
Returning from AUX function to NEUTRAL, Output #3 shall remain energized (delay on drop out) for 0.08 second.											

Outline (for Reference Only)

