

## State Diagram for PCA9665

### Byte mode, Write

ACTION	CNTRL	DATA	STATUS	RESULT	LOCATION
Send START	140Q	X	08H	START sent	Mainline
Send I2CADR	100Q	I2CADR	18H	Address ACKed	ISR
Send message data	100Q	DATA`	28H	Data ACKed	ISR
Send STOP	120Q	X	3FH	Transfer complete	ISR

### Buffer mode, Write

ACTION	CNTRL	DATA	STATUS	RESULT	LOCATION
Send byte count		Byte count			Mainline
Send START	141Q	X	08H	START sent	Mainline
Load address + data		Addr + (n)Data			ISR
Send buffer	101Q	X	28H	Buffer sent, ACKd	ISR
Send STOP	121Q	X	3FH	Transfer complete	ISR

### Byte mode, Read

ACTION	CNTRL	DATA	STATUS	RESULT	LOCATION
Send START	140Q	X	08H	START sent	Mainline
Send I2CADR	100Q	I2CADR	18H	Address ACKd	ISR
Send Register	100Q	I2CREG	28H	Register ACKd	ISR
Send repeated START	140Q	X	10H	Repeat START sent	ISR
Send I2CADR+READ	100Q	I2CADR+READ	40H	READ Address ACKd	ISR
Send ACK	300Q	Read (n-1)Data	50H	Data received, ACKd	ISR
Send NAK for last byte	100Q	Read last Data	58H	Data received, NAKd	ISR
Send STOP	120Q	X	3FH	Transfer complete	ISR