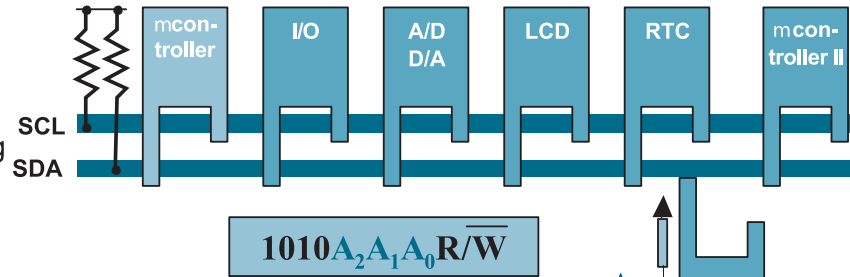


# I<sup>2</sup>C Bus Solutions

## I<sup>2</sup>C Bus Basics

This universal 2 wire bus, developed by Philips, is a de facto standard for controlling and monitoring applications in computing, communications and industrial segments.



**Easily expandable** ✓

- Support from many semiconductor companies ✓
- More than 150 different devices ✓
- Multi master capability e.g. for diagnostics ✓
- Proven applications in *Telecom* market ✓
- Proven in *Industrial* environment ✓
- Used in *Consumer* applications ✓
- Every year new additional products ✓

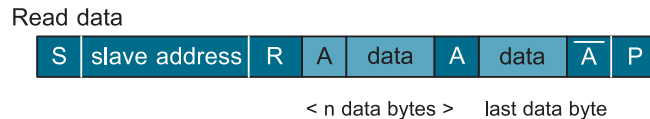
- I<sup>2</sup>C-bus handbook, I<sup>2</sup>C Website: [www.semiconductors.philips.com/i2c](http://www.semiconductors.philips.com/i2c)
- Application notes for GPIOs, RTCs, multiplexers and level shifters.
- Training programs
- Application / design-in support

Each device is addressed individually by software with a unique address that can be modified by hardware pins.

- Bus speed 100 kHz ✓
- 400 kHz ✓
- 3400 kHz ✓
- V<sub>DD</sub> range 2.3- 5.5V ✓
- wiring overhead: low ✓
- power consumption: low ✓✓

It is the only 2 wire bus where devices are addressed completely by software! This saves PC-board costs and design-in time.

New devices or functions can be easily clipped on to an existing bus!



S = Start condition     $\overline{R/W}$  = read / write not  
 A = Acknowledge         $\overline{A}$  = Not Acknowledge  
 P = Stop condition

Data is transmitted between the master and slave at speeds of 100 kHz, 400 kHz or 3.4 MHz.

The master always sends the clock signal.



Purchase of Philips I<sup>2</sup>C components conveys a license under the Philips' patent to use the components in the I<sup>2</sup>C system provided the system conforms to the I<sup>2</sup>C specification defined by Philips.

[www.philipslogic.com/i2c](http://www.philipslogic.com/i2c)



