

	
1	VSS
2	VCC +5V
3	Contrast control
4/P0	RS Register select
5/P1	RW Read/write
6/P2	E Enable
7/P3	D0 Data Pin 0
8	D1 Data Pin 1
9/P4	D2 Data Pin 2
10/P5	D3 Data Pin 3
11/P6	D4 Data Pin 4
12/P7	D5 Data Pin 5
13	D6 Data Pin 6
14	D7 Data Pin 7
15	LED+ 5V
16	LED- Ground

I/O Expander Pin (P7-P0)	P7	P6	P5	P4	P3	P2	P1	P0
Corresponding LCD Pin	D7	D6	D5	D4	BL	E	RW	RS

LCD works in 4 Bit mode!

Notes:

7-bit, default address 27 (Shorting A0-A2 changes this register)

PCF8574

- **Bit 0 (LSB)** → Pin P0
- **Bit 1** → Pin P1
- **Bit 2** → Pin P2
- **Bit 3** → Pin P3
- **Bit 4** → Pin P4
- **Bit 5** → Pin P5
- **Bit 6** → Pin P6
- **Bit 7 (MSB)** → Pin P7

With this we can have mapping table:

I2Csent byte: abcdefgh (each letter represents a bit 1/0)

Sent Byte	a	b	c	d	e	f	g	h
Corresponding LCD Pin	D7	D6	D5	D4	BL	E	RW	RS

LCD functions mapping table:

Sent Byte (Binary)	Description
00110011	Initialize LCD in 8-bit mode (first step)
00110010	Set LCD to 4-bit mode (second step)
00101000	2 lines, 5x7 character matrix
00001100	Display ON, cursor OFF
00000110	Increment cursor position
00000001	Clear display
00000010	Return home (set cursor to beginning)
10000000	Set cursor position at (0,0)
10000001	Set cursor position at (0,1)
10000010	Set cursor position at (1,0)
10000011	Set cursor position at (1,1)
00011100	Shift display right
00011000	Shift display left

More info available [here](#)