TEMPERATURE SENSORS

INDOOR
DS1820
GND   D

OUTDOOR
DS1820
GND   D

+5

MODE   MINUS   PLUS

3 x 10kOhm

+5

1N4148

PCF8583
SDA
SCL
VDD
OSCO   OSCI   A0

32.768kHz

1N4148

4 x 1.5V
Batteries

+5

2 x 10kOhm

PB0
PB1

PA0
PA1

PB7   PB6   PB5

PIC16F84

OSC1

OSC2

10Mhz

4 x PCF8574

SDA
SCL
PCF8574
A0
A1
A2
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8

+5

SDA
SCL
PCF8574
A0
A1
A2
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8

+5

SDA
SCL
PCF8574
A0
A1
A2
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8

+5

SDA
SCL
PCF8574
A0
A1
A2
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8

+5

4 x ULN2803

I1 I2 I3 I4 I5 I6 I7 I8
ULN2803
O1 O2 O3 O4 O5 O6 O7 O8   VSS

I1 I2 I3 I4 I5 I6 I7 I8
ULN2803
O1 O2 O3 O4 O5 O6 O7 O8   VSS

I1 I2 I3 I4 I5 I6 I7 I8
ULN2803
O1 O2 O3 O4 O5 O6 O7 O8   VSS

I1 I2 I3 I4 I5 I6 I7 I8
ULN2803
O1 O2 O3 O4 O5 O6 O7 O8   VSS

EACH SEGMENT
20 RED 5mm LED's

"I" SEGMENT

"U" SEGMENT

":" SEGMENT
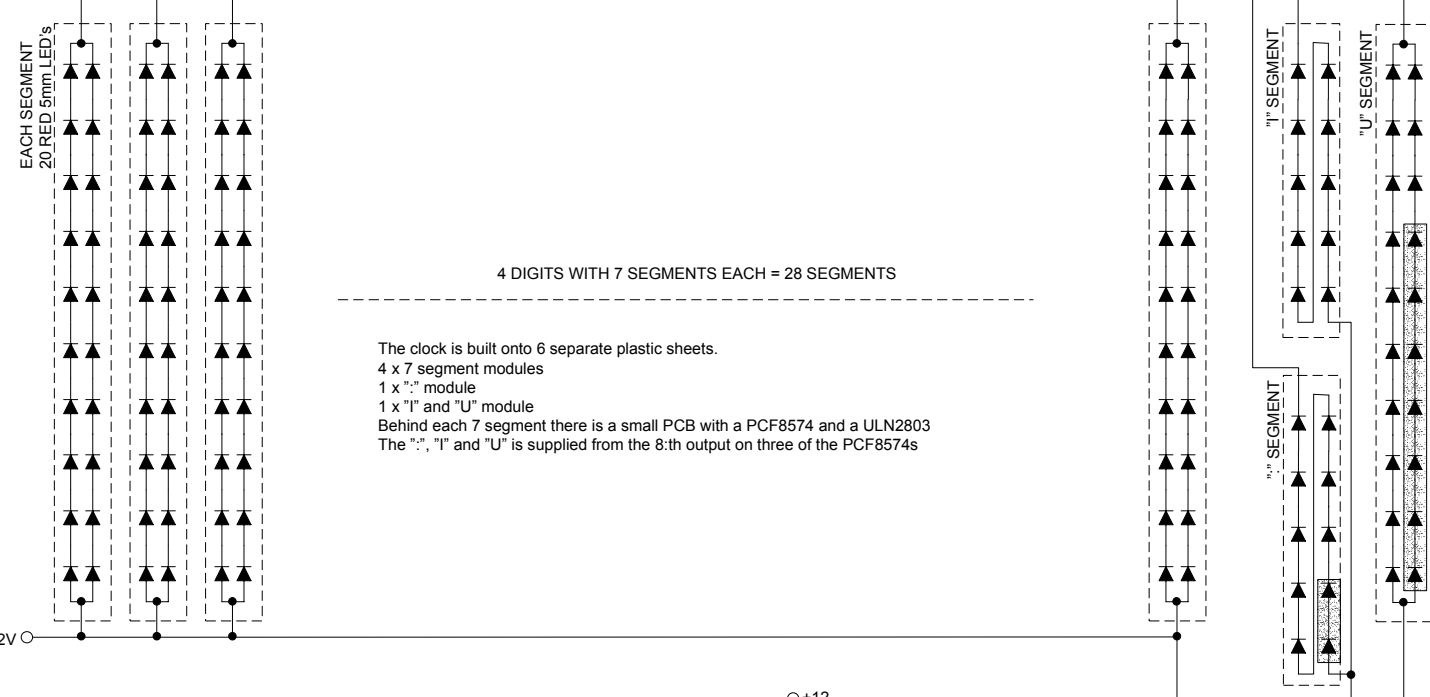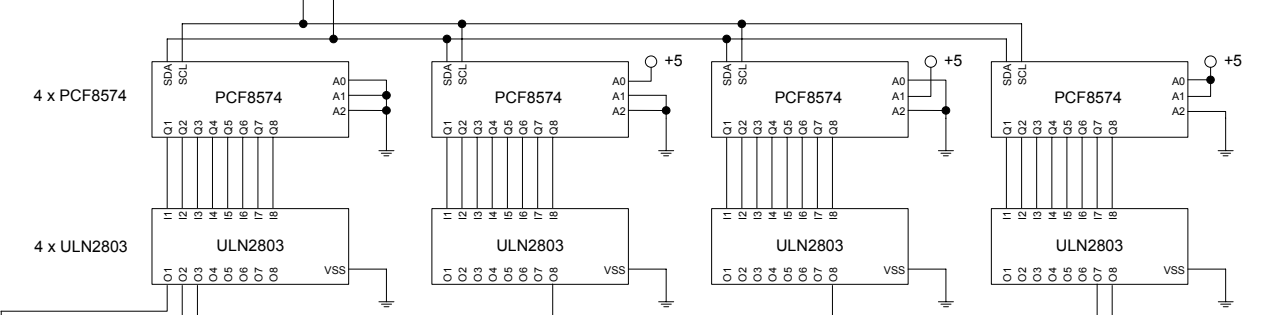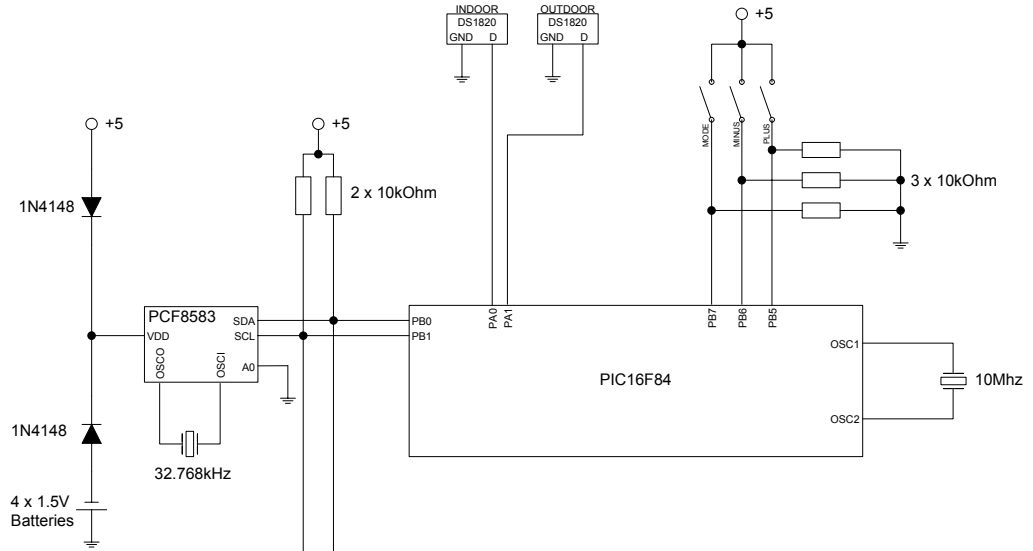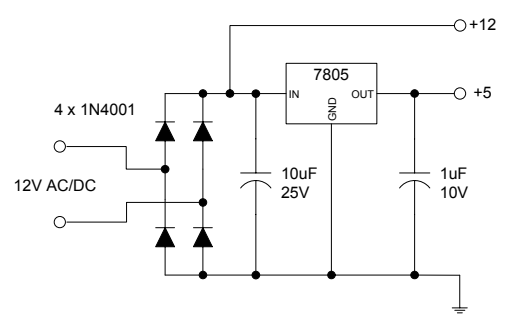
4 DIGITS WITH 7 SEGMENTS EACH = 28 SEGMENTS

The clock is built onto 6 separate plastic sheets.
4 x 7 segment modules
1 x ":" module
1 x "I" and "U" module
Behind each 7 segment there is a small PCB with a PCF8574 and a ULN2803
The ":", "I" and "U" is supplied from the 8:th output on three of the PCF8574s

+12V

+12

4 x 1N4001

12V AC/DC

7805
IN   OUT
GND

10uF
25V

1uF
10V

+5

Shaded leds are dummies just to
get even lightstrength.
Hidden behind the clock.

BIG LED CLOCK