/\*

This file is part of the Arduino\_GroveI2C\_Ultrasonic library.

Copyright (c) 2023 Arduino SA. All rights reserved.

This library is free software; you can redistribute it and/or

modify it under the terms of the GNU Lesser General Public

License as published by the Free Software Foundation; either

version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,

but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU

Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public

License along with this library; if not, write to the Free Software

Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

\*/

#include "Arduino\_GroveI2C\_Ultrasonic.h"

Arduino\_GroveI2C\_Ultrasonic::Arduino\_GroveI2C\_Ultrasonic(TwoWire & \_wire, uint8\_t \_address):wire(\_wire){

address=\_address;

}

void Arduino\_GroveI2C\_Ultrasonic::begin(){

wire.begin();

update();

}

void Arduino\_GroveI2C\_Ultrasonic::update(){

wire.beginTransmission(address);

wire.write(0x01);

wire.endTransmission();

delay(5);

wire.requestFrom(address,(uint8\_t)3);

data = wire.read();

data <<= 8;

data |= wire.read();

data <<= 8;

data |= wire.read();

measure = float(data) / 1000;

if (measure > 4500.00) {

if (measure == 4294967.50){

measure = -1.0;

}

else{

measure = 4500.00;

}

}

}

float Arduino\_GroveI2C\_Ultrasonic::getDistance(){

return measure;

}

float Arduino\_GroveI2C\_Ultrasonic::getMeters(){

return measure/1000.0;

}

bool Arduino\_GroveI2C\_Ultrasonic::checkConnection(){

update();

if (measure==-1.0){

return false;

}

return true;

}

float Arduino\_GroveI2C\_Ultrasonic::getTravelTime(){

return measure\*2.0/0.343; // 2 times the distance at the speed of sound in mm/us

}