```
1   PROGRAM L3GD20H
2   VAR
3       G_Xaxis : INT ;
4       G_Yaxis : INT ;
5       G_Zaxis : INT ;
6
7       L3GD20H_DATAIN : ARRAY [ 0 .. 40 ] OF BYTE ;
8       L3GD20H_DATAOUT : ARRAY [ 0 .. 40 ] OF BYTE ;
9       L3GD20H_DATAOUT_old : ARRAY [ 0 .. 40 ] OF BYTE ;
10
11  END_VAR
12
```

```
1   //Setup Number of Registers IN and OUT for I2C device (this is the L3GD20H
    sensor on the IMU)
2   i2c_single . REG_IN_START := 38 ;
3   i2c_single . REG_OUT_START := 32 ;
4   i2c_single . REGNUM_OUT := 1 ;
5   i2c_single . REGNUM_IN := 8 ;
6
7   //Data from L3GD20H sensor
8   L3GD20H_DATAIN [ 0 ] := i2c_single . DATAIN [ 0 ] ;
9   L3GD20H_DATAIN [ 1 ] := i2c_single . DATAIN [ 1 ] ;
10  L3GD20H_DATAIN [ 2 ] := i2c_single . DATAIN [ 2 ] ;
11  L3GD20H_DATAIN [ 3 ] := i2c_single . DATAIN [ 3 ] ;
12  L3GD20H_DATAIN [ 4 ] := i2c_single . DATAIN [ 4 ] ;
13  L3GD20H_DATAIN [ 5 ] := i2c_single . DATAIN [ 5 ] ;
14  L3GD20H_DATAIN [ 6 ] := i2c_single . DATAIN [ 6 ] ;
15  L3GD20H_DATAIN [ 7 ] := i2c_single . DATAIN [ 7 ] ;
16
17  //L3GD20H 3 axis gyroscope
18  G_Xaxis := WORD_TO_INT ( Mem . PackBytesToWord ( L3GD20H_DATAIN [ 3 ] ,
    L3GD20H_DATAIN [ 2 ] ) ) ;
19  G_Yaxis := WORD_TO_INT ( Mem . PackBytesToWord ( L3GD20H_DATAIN [ 5 ] ,
    L3GD20H_DATAIN [ 4 ] ) ) ;
20  G_Zaxis := WORD_TO_INT ( Mem . PackBytesToWord ( L3GD20H_DATAIN [ 7 ] ,
    L3GD20H_DATAIN [ 6 ] ) ) ;
21
22  //Control value for L3GD sensor turning on X,Y,Z, and scanning
23  L3GD20H_DATAOUT [ 0 ] := 15 ;
24
25  //Ctrl data for L3GD20H sensor 15=ON
26  //Write the data to the output registers on change only
27  IF L3GD20H_DATAOUT_old [ 0 ] <> L3GD20H_DATAOUT [ 0 ] THEN
28          i2c_single . DATAOUT [ 0 ] := L3GD20H_DATAOUT [ 0 ] ;
29          L3GD20H_DATAOUT_old [ 0 ] := L3GD20H_DATAOUT [ 0 ] ;
30  END_IF
31
32
```