TOSHIBA

SP-870-015

ACFREQ

--Measuring AC Frequency Using Pulse Width Measurement Mode--

Rev 1.1
Dec. 2005

1. Target MCU

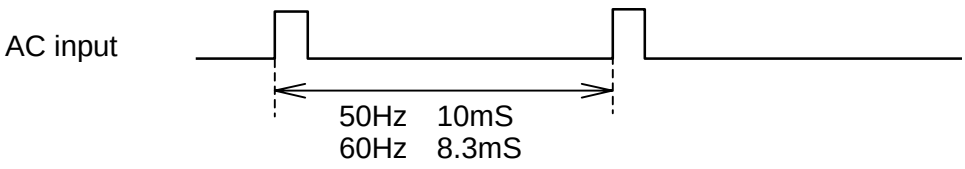
This sample program is created targetting at the TLCS-870/X series.
When using an MCU other than the TLCS-870/X series, refer to the data sheet for that MCU.

2. Overview

This sample program measures the AC frequency using pulse width measurement mode.

3. Description

Connect the AC input to P12 (TC1) to determine 50 or 60 Hz. The program measures the period of the AC input and determines the frequency from the average of four measurements within a range of 7.5 to 11.0 ms. If the average period is between 7.5 and 9.0 ms, the program assumes 60 Hz. If the average is between 9.1 and 11.0 ms, it assumes 50 Hz.



4. Passing Data

Use the following variables to exchange data:

[Variable: GACVLFG] Measurement flag

bit7	FACCHK	=0: Measurement completed	=1: Measurement in progress
bit5	FAC60H	=0: 50 Hz	=1: 60 Hz
bit3-0	Measurement counter		

[Variable: GACVLAD] Value added for measurement (2 bytes)

5. Interrupts

• TC1 interrupts