Pray Times Crestron Module Help

CONTACT SUPPORT:

COMPANY NAME:	Ultimate Control
SUPPORT CONTACT:	Mohamed Sadek
EMAIL ADDRESS:	support@ultcontrol.com

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Pray Times Calculator V1.12
CATEGORY:	Miscellaneous
VERSION:	1.12
SUMMARY:	Calculate pray times in selected coordinates and show calculated times, as well as triggering notification when pray time approaches
CRESTRON HARDWARE REQUIRED:	3-series processor or higher
SETUP OF CRESTRON HARDWARE:	N/A
CABLE DIAGRAM:	N/A

NOTES:

General Notes:

The module is calculating pray times locally on the processor without any connection to the internet, that's why the module needs some parameters to be set properly in order for the module to get the correct pray times in the target city/location, the following parameters are required for the target city/location:

- Location Latitude of the city
- Location Longitude of the city
- Calculation method used in city
- Juristic method used in city
- High Latitude method used in city
- Time format to be used to show times on GUI
- Minutes adjustment for each pray to match the local pray times

If these are not provided properly the module will not calculate pray times properly, all these parameters should be saved in a .csv file as per the format described below and loaded to the controller's memory, the file should be loaded to the "NVRAM" folder or any sub-folder in it, and the complete path of the file should be passed to the **data_file_path** module parameter so the module would use this file to read from and write to any changes will be done through the module

To get the correct parameters that are suitable for your city, please visit http://ultcontrol.com/modules/pray-times/

It is **important** to set the processor date, time, and time zone to the correct local data before loading the program to the processor, if these are not set correctly, the calculated times and times notification will not be done properly

Because pray times changes daily, the module is already programmed to re-calculate the pray times after midnight to get the new day times

	This module is processor licensed, meaning that the module will not work in full if it is not licensed to the target processor, in this case the module will indicate that on the **module_is_activated** signal and it will show only the first 3 times if it is not licensed properly, in order to license it you will need the License key and Activation key which can be acquired by visiting http://ultcontrol.com/modules/pray-times/ License and Activation Keys can be loaded to the program directly using the **license_key** and **activation_key** parameters, this will make the keys static in the program, if there will be a need to change the license and activation keys, programmer will have to enter the new ones and reload the program again It is possible to load the license and activation keys dynamically using the **license_file_path** parameter, this will be by passing the license and activation keys to the module through a license information file loaded to the path set in this parameter, this will be handy in case of typical rooms program, programmer can use the same program to load to all rooms, and load different license file to each processor, without the need to recompile each room program to pass the correct license and activation keys

CONTROL:

calculation_method_select	A	Use to set the Pray Calculation method, value out of range will be ignored and last set value will be used ***Possible values:*** 0: Custom Settings 1: Shia Ithna Ashari (Jafari) 2: University of Islamic Sciences, Karachi 3: Islamic Society of North America (ISNA) 4: Muslim World League (MWL) 5: Umm al-Qura, Makkah 6: Egyptian General Authority of Survey 7: Egyptian General Authority of Survey (bis) 8: Institute of Geophysics, University of Tehran 9: Fixed Isha Angel Interval 10: UAE General Authority of Islamic Affairs and Endowments 11: Kuwait 12: Qatar 13: Algerian Minister of Religious Affairs and Wakfs 14: Tunisian Ministry of Religious Affairs 15: Diyanet İşleri Başkanlığı, Turkey 16: JAKIM (Jabatan Lemajuan Islam Malaysia) 17: MUIS (Majlis Ugama Islam Singapura) 18: SIHAT/KEMENAG (Kementerian Agama RI) 19: UOIF (Union Organization Islamic de France) 20: France - Angel 15 21: France - Angel 18 22: Spiritual Administration of Muslims of Russia
jusristic_method_select	A	Use to set the Juristic (Asr) calculation method, value out of range will be ignored and last set value will be used ***Possible values:*** 0: Shafii (standard) 1: Hanafi
high_latitude_method_select	A	Use to set the Hight Latitude Adjustment method, value out of range will be ignored and last set value will be used ***Possible values:*** 0: No adjustment 1: Middle of Night 2: 1/7th of Night 3: Angle/60th of Night
custom_fajr_angle_select	A	Use to set the custom Fajr angle, this is used only when the calculation method is set to Custom Settings (0d to 1000d, representing 0 to 100 degrees), value out of range will be ignored and last set value will be used
custom_dhuhr_minutes_select	A	Use to set the custom Dhuhr minutes, this is used only when the calculation method is set to Custom Settings (0d to 100d, representing 0 to 100 minutes), value out of range will be ignored and last set value will be used

custom_maghrib_angle/minutes_type_select	D	Use to set the custom Maghrib parameter type Set to OFF to set the custom Maghrib parameter type to angle. Set to ON to set the custom Maghrib parameter type to minutes. This will affect the how the value passed for Maghrib to be treated as angle or minutes respectively
custom_maghrib_angle/minutes_value_select	A	Use to set the custom Maghrib angle/minutes, this is used only when the calculation method is set to Custom Settings (0d to 1000d, representing 0 to 100 degrees/minutes), value out of range will be ignored and last set value will be used
custom_isha_angle/minutes_type_select	D	Use to set the custom Isha parameter type Set to OFF to set the custom Isha parameter type to angle. Set to ON to set the custom Isha parameter type to minutes. This will affect the how the value passed for Isha to be treated as angle or minutes respectively
custom_isha_angle/minutes_value_select	A	Use to set the custom Isha angle/minutes, this is used only when the calculation method is set to Custom Settings (0d to 1000d, representing 0 to 100 degrees/minutes), value out of range will be ignored and last set value will be used
minutes_adjustment_*_select	A	Use to set the minutes adjustment of each pray, this is the number of seconds to remove or add to the calculated time to adjust it to match local timings announced by local authorities (-600d to 600d), value out of range will be ignored and last set value will be used
notif_time_shift_*_select	A	Use to set the notification time shift of each pray, this is the number of minutes to remove from the calculated time to have earlier notification time before the pray time (0d to 60d), value out of range will be ignored and last set value will be used
time_format_select	A	Set Time Format, value out of range will be ignored and last set value will be used ***Possible values:*** 0: 24-Hour Format (e.g. 13:00) 1: 12-Hour Format (2.g. 1:00 pm) 2: 12-Hour Format with No Suffix (e.g. 1:00)
save_parameters	D	Pulse to save the selected calculation parameter to the settings file
Calculate	D	Pulse to calculate the pray times with the set methods/parameters, this can be triggered by the program to start calculating the pray times, the module is also programmed to trigger this action every day after midnight to calculate the new day pray times

FEEDBACK:		
latitude_active	S	Displays the current latitude in text format, this value is read from the settings data file
longitude_active	S	Displays the current longitude in text format, this value is read from the settings data file
calculation_method_active	A	Displays the current Pray Calculation method ***Possible values:*** 0: Custom Settings 1: Shia Ithna Ashari (Jafari) 2: University of Islamic Sciences, Karachi 3: Islamic Society of North America (ISNA) 4: Muslim World League (MWL) 5: Umm al-Qura, Makkah 6: Egyptian General Authority of Survey 7: Egyptian General Authority of Survey (bis) 8: Institute of Geophysics, University of Tehran 9: Fixed Isha Angel Interval 10: UAE General Authority of Islamic Affairs and Endowments 11: Kuwait 12: Qatar 13: Algerian Minister of Religious Affairs and Wakfs 14: Tunisian Ministry of Religious Affairs 15: Diyanet İşleri Başkanlığı, Turkey 16: JAKIM (Jabatan Lemajuan Islam Malaysia) 17: MUIS (Majlis Ugama Islam Singapura) 18: SIHAT/KEMENAG (Kementerian Agama RI) 19: UOIF (Union Organization Islamic de France) 20: France - Angel 15 21: France - Angel 18 22: Spiritual Administration of Muslims of Russia
jusristic_method_active	A	Displays the current Juristic (Asr) calculation method ***Possible values:*** 0: Shafii (standard) 1: Hanafi
high_latitude_method_active	A	Displays the current Hight Latitude Adjustment method ***Possible values:*** 0: No adjustment 1: Middle of Night 2: 1/7th of Night 3: Angle/60th of Night
custom_fajr_angle_active	A	Display the current Fajr angle (0d to 1000d, representing 0 to 100 degrees)
custom_dhuhr_minutes_active	A	Display the current Dhuhr minutes (0d to 100d, representing 0 to 100 minutes)
custom_maghrib_angle/minutes_type_active	D	Display the current Maghrib parameter type OFF indicates that the custom Maghrib parameter type is set to angle. ON indicates that the custom Maghrib parameter type is set to minutes. This will show how the value for Maghrib is used as angle or minutes respectively
custom_maghrib_angle/minutes_value_active	A	Display the current Maghrib angle/minutes (0d to 1000d, representing 0 to 100 degrees/minutes)
custom_isha_angle/minutes_type_active	D	Display the current Isha parameter type OFF indicates that the custom Isha parameter type is set to angle. ON indicates that the custom Isha parameter type is set to minutes. This will show how the value for Isha is used as angle or minutes respectively
custom_isha_angle/minutes_value_active	A	Display the current Isha angle/minutes (0d to 1000d, representing 0 to 100 degrees/minutes)

minutes_adjustment_*_active	A	Display the current minutes adjustment of each pray, this is the number of seconds to remove or add to the calculated time to adjust it to match local timings announced by local authorities (-600d to 600d)
notif_time_shift_*_active	A	Display the current notification time shift of each pray, this is the number of minutes to remove from the calculated time to have earlier notification time before the pray time (0d to 60d)
time_format_active	A	Displays the current Time Format ***Possible values:*** 0: 24-Hour Format (e.g. 13:00) 1: 12-Hour Format (2.g. 1:00 pm) 2: 12-Hour Format with No Suffix (e.g. 1:00)
***_time**	S	Displays the prays times in text format following the selected time format, the times are for Fajr, Sunrise, Dhuhr, Asr, Sunset, Maghrib, Isha respectively
time_notification_*_tick	D	Pulsed to indicate that the corresponding pray time is approached, for the times of Fajr, Sunrise, Dhuhr, Asr, Sunset, Maghrib, Isha respectively
module_is_activated	D	Hight to indicate that the module is activated successfully with the supplied license and activation keys

PARAMETERS:

license_key/license_file_path	S	String for the module License Key, this can contain one of the following: - License Key String, this will be the license key acquired from the link below, this will be static in the program and will not be possible to change dynamically - License Information File Path, this will be the path of the license information file acquired from the link below, this will be useful to change the license and activation keys dynamically without the need to reload the program with the new key Please visit http://ultcontrol.com/modules/pray-times/ to get your license key
activation_key	S	String for the module Activation key, please visit http://ultcontrol.com/modules/pray-times/ to get your activation key, you will need to have a valid license key and the serial number of the processor to be used with the module to get the activation key
data_file_path	S	String for the path of the settings data file, this data file is a .csv containing the required values for all the settings needed to calculate the pray times, the content of the file might have all of some of the following keys and its corresponding values: **Location Coordinates Keys:** “latitude” to set the latitude “longitude” to set the longitude **Calculation Parameters Keys:** “calc_method” to set the calculation method “juristic_method” to set the juristic (Asr) method “high_lat_method” to set the high latitude adjustment method “time_format” to set the time format **Time Adjustment Keys:** “min_adj_fajr” to set the minute adjustment for Fajr (in seconds) “min_adj_sunrise” to set the minute adjustment for Sunrise (in seconds) “min_adj_dhuhr” to set the minute adjustment for Dhuhr (in seconds) “min_adj_asr” to set the minute adjustment for Asr (in seconds) “min_adj_sunset” to set the minute adjustment for Sunset (in seconds) “min_adj_maghrib” to set the minute adjustment for Maghtib (in seconds) “min_adj_isha” to set the minute adjustment for Isha (in seconds) **Notification Time Shift Keys:** “notif_shift_fajr” to set the notification time shift for Fajr (in minutes) “notif_shift_sunrise” to set the notification time shift for Sunrise (in minutes) “notif_shift_dhuhr” to set the notification time shift for Dhuhr (in minutes) “notif_shift_asr” to set the notification time shift Asr (in minutes) “notif_shift_sunset” to set the notification time shift for Sunset (in minutes) “notif_shift_maghrib” to set the notification time shift for Maghtib (in minutes) “notif_shift_isha” to set the notification time shift for Isha (in minutes) **Custom Calculation Method Keys:** these keys are only needed if the pray calculation method is set to custom “custom_fajr_angle” to set the custom Fajr angle “custom_maghrib_angle” to set the custom Maghrib angle “custom_maghrib_minutes” to set the custom Maghrib minutes “custom_isha_angle” to set the custom Isha angle “custom_isha_minutes” to set the custom Isha minutes To get the .csv file suitable for your city, please visit http://ultcontrol.com/modules/pray-times/ to get the file corresponding to your city

TESTING:

OPS USED FOR TESTING:	3-Series: v1.601.3934.21185
SIMPL WINDOWS USED FOR TESTING:	4.14.31
DEVICE DB USED FOR TESTING:	200.40.004.00
CRES DB USED FOR TESTING:	202.05.002.00
SYMBOL LIBRARY USED FOR TESTING:	1128
SAMPLE PROGRAM:	Pray Times V1.12 Demo DIN-AP3
REVISION HISTORY:	V1.0 Initial Release V1.1: New Features: - Adding of notification time shift, to enable the module to trigger the notification before the pray time with the number of minutes set for each pray Bug Fixes: - Setting Dhuhr minutes fixed to receive whole numbers instead of fractions of minutes - Set value verification on parameters set for the pray times, values out of range will be ignored V1.11: New Features: - Allowing to pass License and Activation Keys to the module through a license file loaded to the processor's file system - Error and info messages are reported to the processor's error log V1.12: - Increasing the notification time shift values to the limit of 60 mins instead of 5 mins.