With the advancement in technology, there has been an increased interest to study functional data. The collection and analysis of dense data has resulted in the development of statistical techniques that deal with data where functional predictors are collected for (often a few) subjects. In this work, we propose a robust estimation method for the functional logistic regression model. This approach is based on penalization to ensure that the estimated parameter function is a smooth function as well as incorporating a process for down-weighting outlying functional predictors. The proposed robust penalized method is a Mallows type estimate with a Huber-type loss function being used to down-weight the high leverage observations. Results from a simulation study and a real world example are also discussed to illustrate the performance of the proposed method. (Received September 17, 2013)