

Search history

Search 1: STAC=(prosthesis w1 hand and electro* and filter and motor*) (Results 3)

1) Family number: 48434105 (US2012232675A)

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SYSTEM AND METHOD FOR ACQUIRING AND PROCESSING MYOELECTRIC SIGNALS IN ORDER TO CONTROL A PROSTHETIC ARM

Abstract: Source: US2012232675A The invention relates to a system for acquiring and processing myoelectric signals in order to control a prosthetic arm, comprising: a pair of electrodes positioned in a muscle in the residual limb of an arm that has been amputated in order to detect myoelectric signals; an electrode positioned at a distance from said pair of electrodes, which acts as an earth system; a myoelectric signal conditioning means; and a prosthesis controlling and processing means which receives conditioned signals from the conditioning means. According to the invention, the prosthesis controlling and processing means includes: a comparison means for comparing a muscle contraction time and a muscle contraction voltage with a threshold time and a threshold voltage, respectively; and an activation means for activating at least one motor which produces a pre-determined movement of the prosthesis in response to an activation signal transmitted from the aforementioned comparison means. The electrodes provide the myoelectric signal for activating different movements of the prosthesis, without the electrodes having to be changed to another muscle.

Probable Assignee: CASTILLO LUIS ARMANDO BRAVO

Earliest Publication Date: 20110310

2) Family number: 58590969 (IN02040MU2014A)

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EMG BASED WIRELESS ASSISTIVE PORTABLE 3 FINGER ROBOTIC HAND

Abstract: Source: IN02040MU2014A Present invention provides specially a portable device that feasibly assist the robotic **hand prosthesis** movements like opening and closing of hand, extension and flexion of wrist, extension and flexion of elbow; which offers more mobility to the disabled hand persons without the need of complex array of sensing electrodes, mathematical transformation and computer processing. So to increase the effectiveness of hand prostheses, it consider the surface myoelectric (EMG) signals which are further used as a control signal of the human active hand movements for assistive robotic hand. For daily living hand activity, we use only the three fingers viz. the thumb, index and middle finger for maximum working tasks, so we have built the three fingers prosthesis controlled robotic hand. In this, we have developed a wireless prosthesis robotic hand movements which can be operated in real time assessment with high accuracy. Also for developing a portable and economical model, only three electrodes are been used for acquisition of EMG signal and the EMG signal processing is done with the ATmega16 controller which has removed the computer module from the system and make our system a compact, portable and cost efficient system. Following invention is described in detail with the help of Figure 1 of sheet 1 showing the schematic block diagram of the present invention.

Probable Assignee: SUMIT ARUN RAURALE

Earliest Publication Date: 20150227

3) Family number: 2874059 (US4808187A)

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TACTILE STIMULUS RECEPTOR FOR A **HAND PROSTHESIS**

Abstract: Source: US4808187A A means and method for tactile stimulus reception for use with a myoelectric prosthesis includes a pressure transducer positioned on the prosthesis. The pressure transducer senses the level of pressure experienced by the gripping portion of the prosthesis and converts the sensed pressure into a corresponding signal. A pressure stimulus member is positionable upon the user and creates a pressure stimulus proportionally corresponding to the sensed pressure of the pressure transducer by utilizing the signal from the pressure transducer. The pressure stimulus is tactile so that the user can be given direct tactile pressure stimulation corresponding directly with the pressure sensed by the pressure transducer.

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Earliest Publication Date: 19890228